HOUSEHOLD-ARTS FOR HOME-AND-SCHOOL

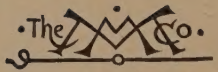
VOLUME ONE

THE-FAMILY-BUDGET
HOME - FURNISHING
CARE OF THE BABY
TEXTILES AND SEWING
SELECTION OF CLOTHING

COOLEY & SROHR

HOUSEHOLD ARTS FOR HOME AND SCHOOL

VOLUME I



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Miss Roberts' bedroom at the Sunnyside apartment.

HOUSEHOLD ARTS FOR HOME AND SCHOOL

VOLUME I

THE FAMILY BUDGET CARE OF THE BABY
HOME FURNISHING TEXTILES AND SEWING
SELECTION OF CLOTHING

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PREFACE

NOTE TO TEACHERS

This volume, with its companion, is intended for use in the elementary schools or junior high schools. It is hoped that both volumes will be used by the home people as well as by the children at school. They were planned for use in the city schools — both large and small cities — and the teachers of home economics can make more direct adaptations and connections as circumstances and conditions may demand and suggest.

The use of the books should depend on the teacher's course as outlined, and references for study should be chosen from those parts of the book which bear on the topics being pursued in the course at the time rather than following the subjects exactly in the order presented in the books.

It will be noticed that the method of procedure in the sequence of the lessons develops naturally as the story unfolds and there is reason or need for the study of certain topics. The sequence is not a logical arrangement of subjects taken up one by one. The teacher will find therefore that a textile, or laundry, or other lesson may break into the sewing series because it is the natural topic to be studied in relation to the problem at that time. This method of pro-

cedure has been found most effective as the children feel distinctly the reason for the lesson and its value is seen in relation to its real use.

It will be noticed that a lesson (so-called) may require several class periods for its accomplishment. For example, Lesson 13 in Part II describes the making of a petticoat. It will probably take a seventh-grade class five or six lessons of 1½ hours each to finish this problem. During this period other lessons in the book may be assigned in the study of textiles suitable for petticoats and underwear, or the laundering of such garments.

This volume treats of the furnishings of a simple home through the story of the Sunnyside apartment, which was the practice house at the Ellen H. Richards School for the girls studying household arts, as well as the home of two of their teachers. The furnishings offer interesting problems for the sewing class periods. Other topics treated in this book are the economical buying and care of clothing, repair of clothing, the use of commercial patterns, and the making of simple garments. The clothing and care of the baby are taken up as the eighth-grade girls become acquainted with Mrs. Edwards and her young family, who live in the same apartment house.

The authors are indebted to the illustrators, Professor LaMonte Warner, and Mr. and Mrs. M. Petersham, for their splendid work in interpreting the spirit of these lessons.

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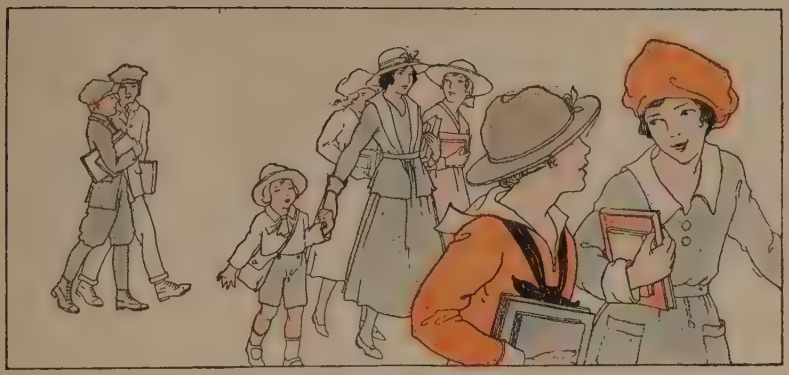

GOING TO THE NEW SCHOOL

HOUSEHOLD ARTS FOR HOME AND SCHOOL

INTRODUCTION

What plans have been made at your school for the home-making studies?

Some of the girls of Commonwealth City are looking forward with great eagerness to the opening of school in September. The old schoolhouse on Main Street where these girls have attended for several years has been sold. It was old and in the heart of the business section, and the school board has chosen a new site in a more quiet part of the city, at the corner of Washington Avenue and Friendly Street. It is the custom of the school board of Commonwealth City to name its schools for the great men and women of America who

I. The new school is opened at Commonwealth City.

have given their lives to improving education for boys and girls. These are real halls of fame. Can you think of some of the men and women whose names have probably been chosen for this city's schools?

The name chosen for the new school on Friendly Street was that of Ellen H. Richards. Perhaps some of the girls and boys in your school have heard of Mrs. Richards and all the helpful things she did during her lifetime (Fig. 1). Isn't it interesting that the school is on Friendly Street, in Commonwealth City? Mrs. Richards believed in friendliness, and in a commonwealth and knowledge which would enable all to share in the best things of life and the wealth of this great country of ours. Did you know that she was one of the first women to think about introducing the home-making studies in school? She spent most of her time and energy in working for the cause of home economics or better home making. Mrs. Richards lived near Boston, Massachusetts; some day we shall study about her life and the wonderful things she wrote and did in order to help people to live in a better way. Because Mrs. Richards' name was chosen for the last new school building special plans were made for the home-making studies at this school.

1. The name chosen for the school, and why.

FIG. 1. — The school was called the Ellen H. Richards School. Do you know why?

The school board decided to equip for the home-

making work one of the large rooms on the third floor of the school building, and to furnish a small apartment near the school for the supplementary work or practice in the home-making studies (Fig. 2). We shall hear more later about what occurred at that apartment. Miss Ruth Ashley, the teacher of home economics at the Ellen H. Richards School, with one of

FIG. 2. — The laboratory for the home-making studies.

the other teachers, planned to live at this school practice house.

Do you know what is meant by home-making studies in school? What studies in home making are you planning to elect at your school? Mrs. Richards included in home making all those studies which help to make our homes better places in which to live. If one is ignorant of the right kind of food to eat, of the proper clothing to wear, of the best kind of sanitary conditions for one's

II. The home-making studies defined.

house, of making home attractive, of the laws of health, of simple pleasures and ways of right living, how can one spend wisely the necessary money for these things in order to make the home a happy, healthful place? Did you know that home-making studies included all these things? Perhaps you have thought that they meant learning to cook and to sew. They do sometimes, but they also mean many other things which one should know in order to live well.

1. Food.

Have you ever stopped to think where the food which you eat every day comes from (Fig. 3)? Have you studied how it was raised, who did the work? Do you know how the farmer sends to market for sale the food which he produces? How he raises grass for the cows which give the milk, chickens which give the eggs, and how he raises vegetables from seeds? Some people, called manufacturers, take certain foods and make them into other foods. Milk is made into butter and cheese; wheat is made into flour for bread; sugar cane into sugar. The home maker prepares foods for the family from the milk, eggs, flour, sugar, and other materials which have been sent to market by the farmer, or from manu-

FIG. 3. — Can you tell the story of how wheat becomes . . . .

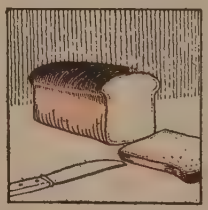

FIG. 3. — A loaf of bread.

factured products. There are many things to learn about food: where it is grown, how it is marketed, how it travels in cold storage cars and is kept fresh and sanitary, how it is changed into other goods for market for the home maker to buy and prepare for her family. Learning to purchase food wisely and economically, to care for it in a clean way, to prepare and serve it daintily without waste, in order to keep the family in good health, are also some of the phases of this study of food which are included in home making, as well as how and where food is grown, manufactured, and preserved.

2. Clothing.

We must all have clothing to wear as well as food to eat. Clothing for the Eskimos is quite different from that which is worn in the torrid or temperate zones (Fig. 4). The kind of clothing worn depends on the climate of the country and the season of year. Did you know that much of our

FIG. 4. — What four leading textile materials are suggested by these pictures?

clothing, like our food, comes from the soil? Look at your dress; perhaps it is made of cotton or linen. Cotton is grown in some parts of our country. It is the crop raised by the farmers instead of wheat, oats, or

corn. Flax is also raised in the fields in some countries, and from it our handkerchiefs, collars, dresses, and other linens are made. The sheep on the farm feed on plants and give us wool for clothing. The silkworm is raised in some countries and feeds on mulberry leaves, and spins and gives us our silk thread for many purposes. All the products which come from the soil directly, or from animals which feed on the soil, are the *raw materials* from which our food and clothing of many kinds are made. We must learn not only how to sew and make cloth into garments of various kinds, but also where the raw materials are grown, how they are spun and woven into cloth, and the things which one should know about materials in order to select clothing wisely and economically, with regard to one's health and the money available. To make clothes prettily and to cleanse and care for them carefully, so that we may keep well and be attractively clothed, are phases of this study.

The home-making studies also include the things one should know about the house or shelter. (See Fig. 6.)

3. The house, its care and management. People occupy different kinds of houses according to their customs and the climate in which they live. Shelter protects against rain or heat or cold. In some parts of our country, as in Alaska, where the Eskimos live, the people are sheltered in very different kinds of houses from those which most of us occupy who live in the temperate zone. The Indians have another kind of shelter. Do

you know the name for it? So we learn that houses are made of different kinds of materials. The important thing for the home maker to know is how to select a house which will be sanitary and comfortable to live in, for her family must be kept well and happy. The home-making studies also teach us how to make the house attractive — that means clean and pretty — how to manage it in such a way that the money or income is wisely spent. It means learning to do the household work systematically and well, — the cooking, sewing, mending, and cleaning. It means learning to entertain one's friends in a simple, hospitable way, and to make home the happiest kind of place for the whole family to enjoy, from baby sister or brother to auntie or grandmother and grandfather.

All this is a worth while study for girls and some of it for boys, too. Boys as well as girls should learn how to keep well, how to select their food and clothing wisely, and how to spend their money to best advantage. Would you like to know how the girls and boys in the Ellen H. Richards School at Commonwealth City studied about these things? You will wish to study about them, too.

III. Home economics a study for all.

Miss Ashley (Fig. 5), the teacher of home economics, told all the seventh-, eighth-, and ninth-grade girls her plans for the new work. She said that the home-making work with the eighth-grade girls would begin with the

IV. Miss Ashley tells her plans for home-making work at the Ellen H. Richards School.

furnishing of the school apartment on Commonwealth Street (Fig. 6). The girls would learn to manage the house as well as to furnish it and make it attractive. They would also be responsible for the simple entertainments there.

Fig. 5. — Miss Ruth Ashley, the teacher of Home Economics at the Ellen H. Richards School.

The seventh-grade girls were to hem the dish towels, napkins, and tablecloths for the apartment; to make the laundry and other useful bags, the curtains, dresser covers, and other necessary things; and to do the Red Cross sewing, which included the making of baby layettes and garments for boys and girls. They were to have their cooking, sewing, and other household work in the school laboratory.

The ninth grade would have advanced study in foods, sanitation, textiles, and clothing. The school board decided that this study was so worth while that the seventh-, eighth-, and ninth-grade girls were to have it every day from two to half past three o'clock.

The first day in the new building was a regular voyage of discovery. So many new utensils, such a bright, sunny, attractive laboratory, such smiling, happy teachers and pupils, all ready to make the Ellen H. Richards School the best in the city! Miss Ashley asked all who wished to see the school apartment to

stop there as they left school. Of course it was an empty, desolate-looking flat, but all had a chance to see how it looked before the eighth-grade girls took possession of it and made it into an attractive home.

Fig. 6. — The Sunnyside Apartments.

This book tells what the girls learned about the house, and how they made it attractive. It tells also what the girls at this school learned about the household furnishings and clothing and their care. The book which accompanies this will tell about how the girls learned to keep this apartment clean, about the foods they learned to prepare and care for in the school laboratory, as well as the meals which they served at the apartment, and all the happy times they had entertaining their friends there. You will be glad, I am sure, to know that the house in which the school board rented the flat was called the Sunnyside Apartments. It was certainly a sunny place which the girls created with Miss Ashley's

V. The subjects to be studied in this book, also in its companion volume.

help. Any home can be made sunny and attractive, however simple or splendid it may be, if one knows how. Would you like to learn as the girls of Commonwealth City learned? Perhaps the work at your school is planned in a similar way.

The Girls Visit the Sunnyside Apartment

PART I

CHAPTER I

THE DECORATION OF THE SUNNYSIDE APARTMENT

Lesson 1

THE SUNNYSIDE APARTMENT

The girls inspect the "Sunnyside" apartment and begin to make plans.

Miss Ashley, with all the girls of the eighth grade, visited the apartment. How vacant it looked! Five rooms and a bath to be furnished! The girls said that they scarcely knew where to begin, for there seemed so much to be done, but Miss Ashley was very hopeful and said that she and Miss Roberts were looking forward to occupying the apartment, and with the girls' help making it into a very cheerful, bright, homey place. Miss Ashley told them that four hundred dollars ($400)

I. The girls study the plan of the Sunnyside apartment.

had been allowed by the Board of Education for the furnishing of the flat.[1] That would mean careful planning in order to get all the necessary furnishings, and knowledge in order to adapt those furnishings to the conditions under which they were to be used.

II. Things to remember in choosing a place to live.

The girls had a good look about in every room. Yes, there was a front room or living room, as it was called, and adjoining it the dining room. There were also two bedrooms, one opening into the living room, and one connecting with the dining room. There were also the kitchen and bathroom. The plan shows the arrangement of the rooms (Fig. 7). Can you tell from the

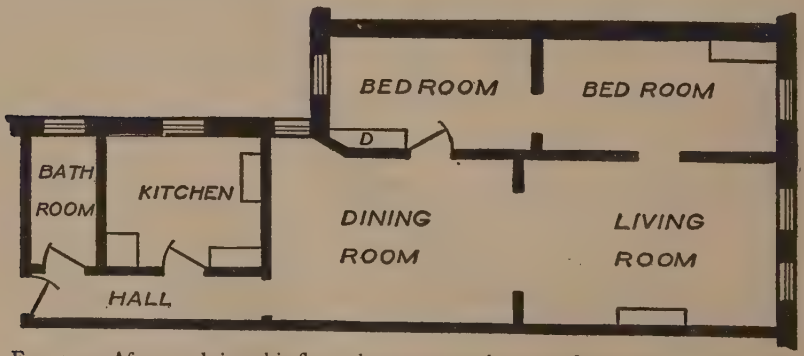

FIG. 7. — After studying this floor plan try to make one of your own apartment or house.

plan how many windows there were in the whole apartment? Do you think that the arrangement of

[1] In 1915 the same type of apartment was furnished in New York City for $225. The furnishings were purchased at a large department store.

windows permitted good circulation of air? Miss Ashley said that that is a very important point to think about in choosing a living place and one of the things she had in mind when she chose the Sunnyside apartment (Fig. 8). Why do you think plenty of air and sunshine are necessary for health? The front windows of the living room and one bedroom faced the east and so had the early morning sun. The back bedroom had western or afternoon sunshine. Very often even high-priced apartments are so very close together that no sunshine and very little light can possibly get in.

1. Ventilation necessary for health.

FIG. 8. — Do you think about having enough fresh air?

2. Light and sunshine.

FIG. 9. — Light and sunshine are also important to think about in choosing a place to live.

Miss Ashley had this fact in mind also in choosing the school apartment, for she maintained that health is the most important thing in life for which one can plan; without it one is handicapped in every way. Fortunately the building next to the Sunnyside Apartments was low and as Miss Ashley had chosen the third floor, there was nothing to cut off good circulation, air, and sunshine (Fig. 9). Wasn't Miss Ashley wise to think of all these

things! Sometimes people forget to look ahead and plan, and think only of whether the house has a beautiful entrance and an elevator. It is pleasant to have a pleasing entrance, in a good neighborhood, but if one must sometimes choose between such things and good air, light, and sunshine, because one cannot afford all these things, which should be chosen?

3. Plumbing.

Miss Ashley said that in choosing a living place one should also consider carefully the question of plumbing; that is always wise and she thinks it pays in the long run to have a plumber test the plumbing and gas pipes, in case there may be leaks or foul gases which will injure health (Fig. 10). This is especially true in an old house.

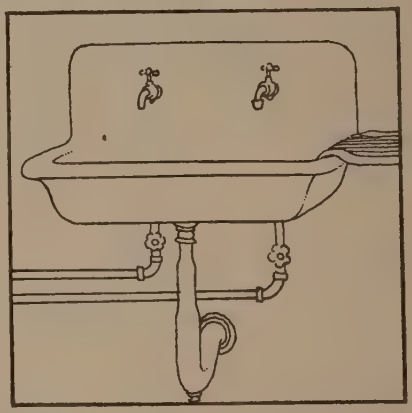

Fig. 10. — One should know that the plumbing, too, is in good order.

Miss Ashley also had the apartment thoroughly fumigated, for she says that one does not always know who the previous occupants of the house may have been and whether it has been kept clean and in good order.

4. Fumigation.

The girls also noticed the closet space (Fig. 11). This is always important in choosing a place to live, for one should be able to put one's belongings out of

sight, and to keep them free from dust. Each bedroom had a closet built in and the kitchen a cupboard for dishes. The living room had a small book closet over the open fireplace. The girls rejoiced over the fireplace for it gave such a cozy, homey appearance.

5. Closet space.

FIG. 11. — One should think also about the storage of one's clothing, in order to have a tidy home.

Miss Ashley said that she thought about these things, too, when the board members asked her to find a place. Of course the health points were uppermost in her mind, but the questions of outlook from the windows, the kind of woodwork in the rooms, the condition of the floors, the attractive fireplace — all the things which add beauty to one's home — were also thought about. Natalie Underwood remarked that she never had thought these things important. She was looking out of the window and exclaimed, as she saw the lovely view of the turning foliage in the little park near on Washington Avenue, "What a restful place it will be for Miss Ashley and Miss Roberts!" Constance Moore was eager to start a little fire in the grate. Miss Ashley said that the wood fire would be sufficient for the early fall days, but that the steam heating would

6. Things which add comfort and beauty.

7. Heating system.

keep them warm during the cold winter (Fig. 12). She had inquired about the heating, too, for that is another important point to think about in choosing a place to live. Health, comfort, beauty, all are important points to keep in mind in choosing a living place.

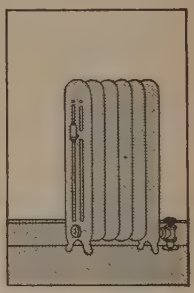

FIG. 12. — One must know also if one is to be warm.

The girls thought that Miss Ashley should plan to use the front bedroom and Miss Roberts the back one. They also thought it would be wise to arrange for an extra bed or couch in the living room in case there should be a guest for overnight. In choosing a place to live one always has in mind those who are to occupy it and one should plan for the comfort of each. One of the school girls, Constance Moore, lived in the apartment two floors below, which was planned in the same way. There were five in her family, her mother, father, grandfather, baby sister, and herself. She said that Grandfather occupied the back bedroom, and that in the front bedroom there were two single beds, occupied by father and mother, and also a crib for baby Mary. Constance slept on a couch in the living room.

III. Plans for the occupants of the house should also be considered in choosing a living place.

This thought of the number in one's family, the use each must make of the rooms, as well as their comfort, should be in mind, too, as one plans for a new home.

Miss Ashley announced that the next lesson would

be one to consider the color of walls, ceilings, and floors. She planned to have some shopping excursions with the girls and to buy the furnishings while the painters were busy decorating the apartment.

Suggestions for Review

1. Make a floor plan of an apartment you would like to live in. If you prefer, make the floor plans of a two-storied house. Give location of windows for ventilation and sunshine.
2. Supposing there were six people in your family, how would you plan for their comfort in the apartment studied?
3. Make an outline of the points studied in this lesson which one should consider in selecting a living place, whether it is one room, a house, or an apartment.

Lesson 2

THE COLOR SCHEMES FOR DINING AND LIVING ROOMS

The eighth-grade girls, with Miss Ashley's help, plan the color scheme for the living room and dining room. Perhaps you are making such plans at your school and would like to study about color schemes, too.

Do you know that one of the neighbors in the Sunnyside Apartments had a name for the eighth-grade class? She called them the "Sunnysiders" because they were always so happy, polite, and quiet as they passed in and out of the building. This was young Mrs. John Edwards, who lived below the school flat and had the wee baby, Dorothy. She was much interested in what the girls were planning to do, for when she was married and moved to this flat

I. The class begins to study the apartment.

she had the same problems of furnishing. Some day we shall study how she managed her home.

Miss Washburn, the art teacher, who was a friend of Miss Ashley, had worked out with her the plans for the lessons in home furnishing. They were based on the art lessons which the girls had had in the other grades. The girls had had art studies under Miss Washburn for several years and understood some of the basic principles underlying art. They had some feeling for beautiful form and line and color which had been gained through their work in design and clay modeling. They had made interesting designs for use in rugs, on work bags, and on other things which they had made, and so were ready to consider this new problem of art applied to the home. Have you had any art studies in your school? Even though you have not, the suggestions which Miss Ashley gave the girls for furnishing will help you, too.

The girls spread some newspapers on the floor of the living room and all sat down while they discussed plans with Miss Ashley. The janitor, Mr. Swift, had brought up the books of wall paper which had been left by the agent.

II. The big aim in planning is to create a cheery, comfortable home place.

Miss Ashley asked the girls whether they had ever noticed that some rooms and homes are more enjoyable than others; that one feels happier and more comfortable in some. This is very often due, she said, to the fact that the rooms are well decorated and attractively

furnished, that the beauties of line and color and form have been kept in mind, and that one has ideals for living which are right and wholesome. Miss Ashley said that this idea must be kept in mind as one begins to plan: What kind of home do I wish to create? Some people prefer showy places without comfort. What do you think of their ideals? What are your ideals for a home? The right kind of atmosphere makes one happy and is conducive to better living. Young Mrs. Edwards' home has such an atmosphere and the girls loved to visit there. Constance Moore, who lived in the same house, said that she liked it better than her own home. Have you ever noticed this

FIG. 13. — Do you think this looks like a homey, comfortable place to live?

difference in homes or houses (Fig. 13)? Would you not like to learn how to make your home attractive in this way? It can be done even though one has little

money, if one has right ideals and if one understands how to get pleasing effects. One should plan the home in such a way that it is adapted to one's way of living and is a cheery place which brings comfort and rest to those who occupy it. Miss Ashley told the girls that their aim in planning would be to create such a homey place in the Sunnyside Apartments. One of the girls, Margaret Langley, said that her family had moved to a new house on Washington Avenue and her mother had given her permission to plan her own room and furnish it. Naturally she was anxious to hear all that Miss Ashley had to tell about decoration and furnishing.

III. The apartment as it appeared.

The walls of all the rooms were covered with ugly papers; apparently the previous occupants had not had good taste. Miss Ashley said that the old papers would all be removed before the new ones were put on. This is very necessary for health as it is very dangerous to add layer upon layer of paper. Vermin often collect as well as germs of disease. In rooms which are damp papers decay, but where there is plenty of air and sunshine to keep them dry and sweet, paper can be kept sanitary and clean when there is only one layer. A damp room is not a fit place to live in at any time. Do you know why?

The floors were all painted and oiled except in the dining and living rooms where there were hardwood floors. The woodwork in the bedrooms and bath

had been painted white, and that in the other rooms was a light gray-brown with a dull oak finish. None of the paint was in very good order, but the agent was willing to put the apartment in repair for the new occupants.

FIG. 14. — Do you understand from this picture what is meant by gradation of color?

Miss Ashley told the girls that the very first thing to do was to study the rooms as a whole and consider the color of walls in relation to the floors, woodwork, and ceiling. As a rule one should expect to find the darkest tones underfoot and a gradation of color up to the ceiling, which should be the lightest value; the walls then are of middle value of colors (Fig. 14). Do you understand from your art lessons what middle value means? So when one has decided about the color for the walls she can tell what the lighter ceiling color should be for harmony and what darker value of color to use for the floors.

IV. The first thing to study is the rooms as a whole.

Miss Ashley said that it is a good rule in small houses or apartments to have the same treatment of walls, floors, and woodwork in rooms which open into one another. Can you tell

why? Notice what an appearance of spaciousness this treatment gives. Miss Ashley said that after class they would stop in Mrs. Edwards' flat and notice how successfully she had done this. This plan gives one a consciousness of a delightful whole. What have you learned about unity in your art class? This principle, if applied to our homes, should prevent us from having rooms of sharp contrast in color opening one into another. Rather one will plan to have in mind some scheme for the whole so that there will be no disturbing elements. Unity, as you have learned, means the right relation of shapes, of lines, of dark and light, and of color. Think about this in choosing the wall coverings and in planning for any room.

1. Relation of one room to another is important.

As the girls sat on the floor of the living room they studied it and the dining room and hallway adjoining, for wall covering. Miss Ashley said that paper is most common for walls since as a rule it is cheaper than paint. If used it must be carefully cleansed by being rubbed down occasionally with a clean cloth to remove dust and should be changed after a certain period of use. Paint is of course the most sanitary wall covering, as it can be scrubbed with soap and water and is preferable in some rooms, especially bedrooms, kitchen, and bath.

2. Kind of wall covering. Paper as a rule is cheap, but paint more satisfactory in some rooms.

The girls decided to choose the same wall covering for the walls of living room, dining room, and hall, on ac-

count of the spaciousness of effect which this treatment gives. Miss Ashley had one of the girls hold different papers against the wall so that all might get the general effect. What is it that leads one to choose one color rather than another? Constance Moore said that she liked some better than others. Yes, preference influences one because one prefers to live with some colors rather than others. However, Miss Ashley told the girls that the sunlight from windows or the location of a room should also help one to decide, as well as the size of the room and its use. Do you realize that when a room is gloomy and poorly lighted because it has few windows, a light wall color of yellow or cream, pale yellow, green, or any other light color will produce a very light effect, especially if the woodwork is white? If you have a dark room in your house, try this the next time the landlord or agent says it can be done over. This light effect is due to reflection of light as well as decoration. Can you tell how the light would be reflected? Isn't this a useful point to understand?

3. One color chosen for the rooms adjoining one another.

V. What determines one's choice of color in a room?

1. Preference.

2. Size and use of room.

So the girls studied the location of the windows with reference to light. The east windows brought the morning sunshine to the living room and the north window light to the dining room, with additional light from the west window in the bedroom adjoining. Miss Ashley said that the location of

3. Lighting of room.

rooms always affected choice of wall colors. Notice in your rooms at home how many different exposures there are. The school laboratory at the Ellen H. Richards School has light on three sides, the south, east, and west. When there is plenty of sunshine in a room, as in one with southern exposure, then cool colors look best, such as the light value of blue, green, gray, tan, or lavender, chosen according to the use of the room. Bright yellows or reds are not comfortable to live with in a sunny room, while in a room with northern exposure, greens and blues are apt to be cold or uncomfortable. On the north side one prefers warm colors because there is less warmth from the sun. Yellow in its different values, or colors, called tans, golden browns, buffs, or terra cottas which have orange or yellow in them give a warm effect. These should be chosen always according to the purpose of the room.

(*a*) Colors for sunny south room.

(*b*) Colors for rooms with northern exposure.

So the girls discussed with Miss Ashley the wall colors for these adjoining rooms and decided on a gray-blue of middle value. Can you tell why one of middle value? In choosing the wall color they kept in mind also the value of color of the woodwork and decided that it should remain the dull neutral brown of middle value, since that harmonized with the value of the gray-blue paper chosen. There were some samples in the book of a plain paper called cartridge paper and another

(*c*) Color in relation to comfort and use.

as shown in the picture of a good all-over design of two tones of blue. The girls chose this (Fig. 15). At a distance it had the appearance of a plain paper or of a background of one tone; at the same time it had a lovely texture. The girls remembered that these were the rooms to be used by Miss Ashley and Miss Roberts, as well as by themselves, for general purposes, for rest, for relaxation, and for hospitality. Do you think they chose a good color for the walls, one which would make them comfortable and happy? Next lesson we shall learn what colors the class chose for floors and ceiling.

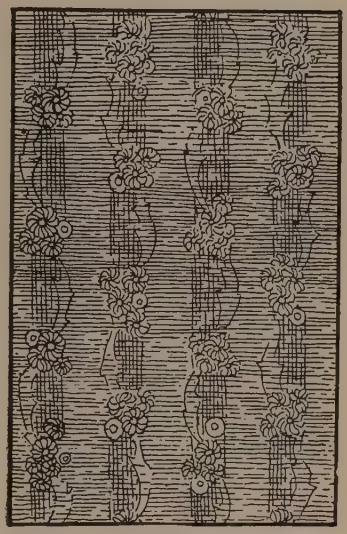

FIG. 15. — The paper chosen was a good all-over design of two tones of blue.

SUGGESTIONS FOR REVIEW

1. Write a short paper giving your ideas of a home.
2. What idea have you for decorating rooms which open directly into each other? Give reasons.
3. Give reasons why paint is the most sanitary wall decoration.
4. If your bedroom were to be decorated, what would determine your choice of colors? Give the colors and tell why you chose them.

Lesson 3

THE FLOORS AND CEILINGS

It is important to consider the color of floors and ceiling in planning to make a comfortable, homey place. Do you know why?

The girls gathered again at the apartment to discuss the color of floors and ceilings. They were glad that the blue paper could be used in the sunny living room and that it was possible to have the direct light.

I. The floors, woodwork, and ceilings are discussed.

We have learned that as a rule gradation of color should be a part of the scheme of every room. (See Fig. 14.) One should expect to find the darkest value of color underfoot, and the lightest at the ceiling. One must remember that the floors and the walls are really the background for all the furnishings and decoration of the room and what one chooses for these will influence one in the selection of furnishings. What thought, then, should be given to the treatment of floors in order to bring about harmony by means of gradation of color values?

Hardwood floors of oak or maple are of course most hygienic and beautiful. The girls were glad that the dining room, living room, and hall had such good floors. It is always more sanitary to have bare floors and to use rugs, or even to have bare floors without rugs, as both floors and rugs can be kept clean so easily. Rugs save time, too,

1. The bare floors are most sanitary.

for carpets are never sanitary because they cannot easily be removed and cleansed.

Dorothy Vincent asked what kind of floors were next best if one did not have hardwood. Miss Ashley answered that yellow pine makes a good floor if one is building and cannot afford the hardwood. Painted floors are next best, even though the floor may be only rough lumber. The cracks and holes in the floor can be filled in first and then a stain and oil or a paint of suitable color put on to make the floor fresh and clean. The girls decided that the hardwood floors of the living room and dining room when oiled and polished would be of a rather dark neutral brown, in harmony with the value of color of woodwork and wall covering. In thinking of floors one must also think of the color of covering to go on the floors and the kind of rugs that are to be used, in order to get gradation of color and to have something simple and inconspicuous beneath the feet. Miss Ashley said that they would choose from the sample book of papers a piece of brown paper as near like the floor color as possible and a sample of the blue for the walls. These would be of help in selecting colors for the rugs, textiles, and other decorations when the girls went shopping.

(*a*) Materials used for floors.

(*b*) The treatment for floors of living and dining rooms.

The ceilings were studied next. If one has the darkest values of color underfoot, and the intermediate values on the walls, what should

2. The ceilings.

be the value of color for the ceilings? Have you noticed in nature that the sky is the lightest value and the ground the darkest? The foliage and background for the houses and fences is of middle value of color. It is these middle values which form the true backgrounds for our homes or our dress. Miss Ashley asked for suggestions for color for the ceilings of the living room, dining room, and hall. Dorothy Vincent and Constance Moore thought that they would like them painted white with a floral design around the edge of the ceiling near the wall, or else with a border of paper near the ceiling. Some of the other girls preferred plain white for the ceiling. While this discussion was going on Mrs. Edwards came in and gave the girls some of her ideas in relation to the decoration of ceilings.

(*a*) **Value of color for the ceilings. Its place in gradation.**

She said that when ceilings are low one should never use borders of paper but should carry the wall decoration to the ceiling. When ceilings are low, a striped paper helps to accentuate the height of a room. Do you know why this is so (Fig. 16)? What do you think can be done when the ceilings are very high and one wishes to lower the effect? Thus there are ways of decorating our rooms as there are of dressing ourselves which detract from our poor points and emphasize our good ones. Have you thought about this? The height of a room can be broken by bringing the color of the ceiling down on

(*b*) **To heighten the effect of a room when ceilings are low.**

the side walls or by using a border of paper with a picture molding below. Mrs. Edwards also said that in a room with a high ceiling sometimes one can drape the windows so as to give a broad effect and so break the height, or pictures can be used of such a shape that horizontal lines are made on the walls and the height broken by these lines (Fig. 17). One always avoids a striped paper in such a room. Why will horizontal lines broaden or lower the effect?

(c) To lower the effect when ceilings are high.

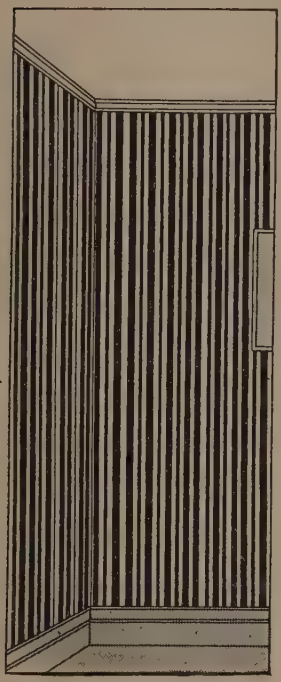

Fig. 16. — A striped paper on a wall helps to make it appear higher.

In visiting Mrs. Edwards' apartment the girls were conscious simply of the delightful homey place and had not noticed the ceilings especially. Mrs. Edwards says that she never has white ceilings. She prefers a creamy tone because there is less contrast then between the walls and ceiling, and a better gradation of color value is attained. In bedrooms where white woodwork and light wall colors are used she sometimes uses white on the ceilings, but even then she says she asks the painter to add a little

(d) Avoid sharp contrasts in color between walls and ceiling.

yellow ocher to the kalsomine or ceiling color. Where there are to be walls and woodwork of middle value of color, she has more yellow ocher added to give a deep cream effect. She finds this much more restful and pleasing than the sharp contrasts.

Miss Ashley has told the girls that simple picture moldings are always in good taste, and that overelaborate, highly colored moldings are very bad taste; a gilt or green one would be a very discordant note in most rooms. Picture moldings should be placed very carefully since they form a horizontal line about the room. Can you tell why this is important? Some day Miss Ashley will talk to the girls about "good lines." Moldings can be placed close to the ceilings at the top of the wall or below the border. When the ceiling color is carried very low to reduce height, the molding may even be placed on a level with the tops of the windows or doors.

(e) The picture moldings to be carefully chosen and placed.

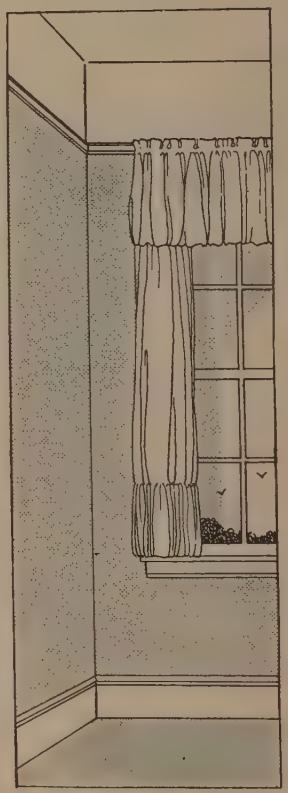

FIG. 17.—Can you tell how the height of this room has been broken?

The ceilings of the Sunnyside apartment were rather

high, so the girls decided to have the color of the ceiling brought down about a foot on the side walls to reduce the height, and to have a very simple brown molding placed below this creamy border chosen for the ceilings. And so they planned the color scheme for walls, floors, woodwork, and ceilings of these two adjoining rooms and the hall. Did you think there were so many points to be kept in mind in order to get the desired effects? It is a real study. Miss Ashley had brought over her paint box, and mixed quickly a sample of color for floors, walls, and ceiling, which she put on a piece of paper and pinned on the wall for the painter to observe. She wrote the style number of the paper given in the book opposite the blue wall color so that errors might be avoided. She said that the next lesson the girls should study the colors for the other rooms of the apartment.

Suggestions for Review

1. Mix samples of color which you would like to have in your living room or dining room. Show gradation of color value as Miss Ashley did.

2. What ideas should one have in mind in planning for the floors of a room?

3. Why are very high ceilings not desirable in most rooms? What suggestion can you make for lowering the effect?

4. What provision has Nature made for gradation of color in backgrounds?

Lesson 4

Decoration for Bedrooms, Kitchen, and Bath

The decorations for the bedrooms, kitchen, and bath are discussed. Have you ever planned for the decoration of these very important rooms, which must be kept clean and sanitary?

If you will study the plan of arrangement of rooms at the Sunnyside apartment, you will see that the front bedroom had the morning sun, as had also the living room, while the back bedroom had the western sun. The rooms opened one into the other with a door between so that good circulation of air from east to west was possible. Miss Ashley said that a bedroom should be a very sanitary place. One third of life is spent in bed, and one's bed should afford rest and comfort and the room be free from dust, dirt, and odors, if one is to be truly efficient. Miss Ashley said that an ideal bedroom should have sunlight and good ventilation. It is sad to think that there are many people sleeping in dark, unsanitary bedrooms. A bedroom is primarily a place for rest and should be furnished with that aim in view. It should be comfortable and pretty but should first serve its real purpose (Fig. 18).

I. The bedrooms.

1. Their location in the Sunnyside apartment.

2. Characteristics of an ideal bedroom.

3. A bedroom is sometimes used also as a study.

If one must use one's bedroom as a combination study and bedroom, this thought should be in mind in furnishing it. Miss Ashley was to use the living room for her

FIG. 18. — Miss Ashley enjoyed her comfortable bedroom.

study and Miss Roberts planned to use her own bedroom for that purpose. The girls had this in mind in selecting the furniture. As we have learned, the woodwork of the bedrooms was painted white. The girls all agreed that they liked it very well; and that if it had a fresh coat of paint of a creamy hue it would look very well, and would be clean and sanitary.

4. The woodwork for the bedrooms.

The question then before them was to choose the floor, wall, and ceiling colors, to harmonize with the creamy white woodwork. The girls thought first about the question of wall covering and decided that for the bedrooms paint was preferable. Can you tell why this decision was made? Then the question of color of walls was discussed and the front bedroom was considered first. Do you remember the points we studied about which affect one's choice of color in a room? Yes, the question of lighting was one. The bedroom for Miss Ashley's use faced east. The question of preference is another point to consider. Miss Ashley was consulted, and the girls learned that she was very fond of gray for a bedroom color, especially a warm gray. Do you know what is meant by a warm or a cool gray? The book of papers was used to match the color, and a suitable hue decided upon. Miss Ashley arranged a color scheme for this room, also using a sample of paper to suggest the color of paint for the walls. Edith

5. The wall covering.

6. The colors chosen for Miss Ashley's bedroom.

(*a*) The walls.

Potter thought that the room would be very dull without some decoration on the gray walls. She found a pretty border of paper in the sample book, of tiny yellow roses on a gray and white background, which harmonized with the tone selected for the painted wall. She said that this border would lower the effect of the high ceiling, too. She told also of a border she had seen in a friend's bedroom which was very pleasing in effect. The paper had been cut out irregularly around the floral design at the edge where it met the wall, and the appliqué was most effective. Miss Ashley and all the girls agreed that this would look well. Miss Ashley told the girls that stenciled borders are effective on painted walls when a lower effect is desired. Have you ever made a stencil and painted a border (Fig. 19)? The Sunnyside girls did when they were in the fourth

Fig. 19. — A stencil made by one of the eighth-grade girls for use on her bedroom curtains.

grade. They used it to decorate the classroom curtains.

(*b*) **The ceiling.** The ceiling was next considered, and although some girls preferred white, all finally agreed that a little yellow ocher would make a creamy tone which would be more restful than the glaring white.

The floor was considered next. Folding doors separated this room from the living room, and a door connected with the other bedroom. The girls recalled what they had learned of gradation of color (see Fig. 14) and chose a dark gray paint for the floor. Miss Ashley again worked out the color scheme on a piece of paper for the painter, and left it in a conspicuous place.

(c) The floor.

The second bedroom was considered in the same way. The fact that Miss Roberts was to occupy it, and that it had western light, guided the girls in their choice. The sample book was again consulted for colors. Some of the girls wished rose color for the paint for this room, others chose blue. Miss Ashley told them that Miss Roberts liked the lovely light buffs and tans very much and that they would consider these with reference to the western light. A lovely light buff one was chosen, and as Miss Ashley held the color near the white woodwork, all agreed that with the western light it would make a restful room and especially so since Miss Roberts preferred it.

7. The colors for Miss Roberts' bedroom are discussed.

(a) The walls.

The question of a border of paper on the painted wall was discussed for this room also. Miss Roberts happened to come in and her advice was sought. She preferred to have the ceiling color carried down as in the living room and dining room, and a white molding of creamy hue like the woodwork placed beneath. Can you tell her reason

(b) The ceiling.

for this? Again a creamy kalsomine was chosen for the ceiling.

(c) The floor.

The next point considered was the floor, and all agreed that the neutral brown paint in harmony with the buff wall would be most effective. Of course the white woodwork was to be painted the same creamy hue as that in Miss Ashley's bedroom.

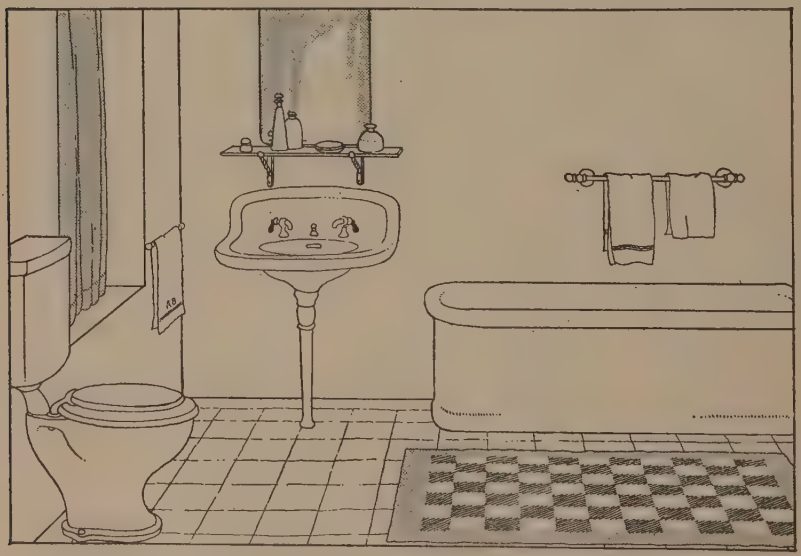

FIG. 20. — Would this bathroom meet the conditions of sanitation?

II. The colors for the bathroom.

The decoration of the bathroom was next discussed, with the important point of sanitation uppermost in the minds of all (Fig. 20). The floor was tiled and the woodwork had been painted white. The girls thought that the walls,

too, should be painted. Do you think they had a good reason for this thought? Can you tell why? The question of color was considered. A north window and not a large one was the only lighting. Miss Ashley asked the girls to recall what they had learned would be effective in a room with few windows. Do you recall what reflected light does to a room? The white paint chosen for the woodwork and tiny wall cabinet, and the creamy kalsomine for the ceiling was of the same creamy hue as the bedrooms. The girls considered the lighting and agreed that as no sunshine entered this room it would be wise to introduce it in the wall color. They decided on a value of yellow which was something of a buff but had much more of the sunshine color in it. What effect do you think this color scheme would have on the small bathroom?

III. The kitchen colors.

The girls all moved to the kitchen to discuss plans for it. Miss Ashley reminded them again of the necessity of making this the most sanitary place of all, — paint on the walls, ceiling, and also on the floor, unless an oilcloth or linoleum is used. The kitchen window was large and wide, and admitted a great deal of light but no sunshine. Can you think what the girls chose then for a wall color? The woodwork was a light oak color and they decided to have it done over in the same way and chose a tan to harmonize with it for the walls. It was a warmer tan than the one used in Miss Roberts' bedroom. Can you tell why?

Miss Ashley said that she would see the painters about beginning work at once and that the next lesson would be held in the school laboratory to plan for the furnishings.

Suggestions for Review

1. Work out on paper, as you think they will appear, the color schemes suggested for the bedrooms, kitchen, and bath of the Sunnyside apartment.

2. Think of your own bedroom. Work out on paper a color scheme for walls, floor, and woodwork which you would like if your room were to be redecorated.

The Girls Visit Smith and Jones' Department Store

CHAPTER II

THE SUNNYSIDE APARTMENT IS FURNISHED

Lesson 5

THE DIVISION OF THE MONEY ALLOWED FOR FURNISHINGS

A lesson to plan for the necessary furnishings for the apartment. How should the $400 be divided? What articles of furnishing are necessary for the bedrooms?

Miss Ashley had an interview with the agent of the Sunnyside Apartments, who said that it would take from one to two weeks to decorate the apartment. During this time Miss Ashley and the girls planned for the furnishings.

I. An approximate division of the money for furnishings is made.

The girls were reminded that $400 had been allowed for all the furnishings and that the first task would be to apportion it among the six rooms and decide on the necessary articles for each. This meant considering in a very

tentative way the furnishings for each room and adjusting the funds in proportion. The girls kept in mind that the $400 had been apportioned approximately in the following way. Miss Ashley said this was meant merely to be a guide, for possibly they might decide later to use a little less for the living room or dining room and more for one of the bedrooms, according to the choice of furnishings in shopping. This was the way Miss Ashley and the girls apportioned the $400.

Living room	$100
Dining room	75
Front bedroom	75
Back bedroom	75
Kitchen	50
Bathroom	10
Margin for extras	15
	$400

II. Shopping lists of the necessary furnishings for each room to be prepared.

Miss Ashley asked all the girls to take out slips of paper and under the headings bedroom 1, bedroom 2, bath, to make a list of all the necessary furnishings for each, including the household linen for bedrooms and bath. In order to do this well, Miss Ashley asked the girls to recall the characteristics of an ideal bedroom. Can you recall them? In listing the furnishings for the bedroom, one should have in mind all of those points and also a picture of the essential things. What have you learned about sunlight, ventilation, cleanliness, and simple furnishings for this room? Of

course it should be pretty as well as comfortable, as you have studied, but remember that it is primarily a place for rest. If it is to be a combination bedroom and study one must remember this in listing the necessary articles. Each girl thought this over carefully alone, and then Miss Ashley called on Edith Potter to go to the board and prepare a list for each room which would be a composite one of the suggestions offered by the girls. The bedroom for Miss Ashley was first considered. The girls made suggestions and checked on their own papers the necessary articles chosen for the list. Some of the girls had forgotten the bed! This lesson did not consider the kind of article to be bought but only the list of the necessary things. Many of the girls added extra articles, but as they discussed the lists they realized that only the most necessary could be bought since the money was limited. This was the list finally decided upon for Miss Ashley's room. Would you have added anything to it or omitted anything?

Miss Ashley's Bedroom Furnishings

1 bed or couch
1 spring
1 mattress
1 pillow
1 blanket
1 comforter
3 sheets
3 pillow cases
1 comfortable armchair
1 dimity spread
3 huck towels
2 bath towels
1 bureau and mirror
1 cover for bureau
1 table
1 cover for table
1 desk blotter
2 curtain rods

III. Necessary articles of furnishings for Miss Ashley's bedroom.

1 cover for seat of chair
1 pair window curtains
1 pair over curtains
1 rug
1 bed cover and pillow
1 cover for day use
2 closet bars for clothes

Miss Roberts' bedroom was considered next and the list made. Have you a bedroom to plan for? Would you add more furnishings to this list if you were planning for yours? The girls discussed the necessities and eliminated everything but the most needed articles. Miss Ashley told them that if any money was left over the extras could be added, and that in planning she always allowed for a margin. Do you know what she meant by a margin? This was the list made for the second bedroom:

Miss Roberts' Bedroom Furnishings

IV. Necessary furnishings for the second bedroom.

1 bed or couch
1 spring
1 mattress
1 pillow
1 blanket
1 comforter
3 sheets
1 dimity spread
3 pillow cases
3 huck towels
2 bath towels
1 bureau
1 mirror
1 bureau scarf
1 desk table
1 desk blotter
1 desk cover
1 rug
1 comfortable chair
2 curtain rods
1 pair curtains
1 pair over curtains
1 couch cover or day bed cover
2 closet bars for clothes

Then followed the list for the bathroom and the girls again discussed absolute necessity. Do you recall what thought should be uppermost in one's mind in planning for the furnishings of a bathroom? Look at the shopping list the Sunnyside girls made for this room. Do you think they kept this thought in mind? The curtains finally chosen were of cheesecloth, like all the other curtains, and the bath mat of blue and white harmonized with the buff walls. It was a clean, sanitary room. The boys put up the shelf, which was painted white to match the trim.

V. Furnishings listed for the bathroom.

1 pair of curtains
1 curtain rod
1 bath mat
1 shelf
1 soap dish
1 mirror
3 towel racks
1 toilet brush
1 paper holder

Miss Ashley asked each girl to copy the lists on the blackboard and to estimate for the next lesson how much could be spent approximately for each article. Do you understand the meaning of that word? Look it up in the school dictionary if you do not.

Constance Moore asked whether they might have help. Miss Ashley said that they might work together, and inquire in any of the shops or get help at home from mother or grandmother. She also gave the girls a list of library books and some catalogues of supply houses which would suggest prices. Miss Ashley said

that they were really beginning to plan their shopping lists when they arranged in this way.

Suggestions for Review

1. If you had $600 to spend in furnishing 5 rooms and a bath how would you divide the money, approximately, in beginning to make your plan?

2. Make a list of the articles you would like to have in your bedroom, keeping in mind the characteristics of an ideal bedroom.

3. What are the necessary furnishings for a bed?

Lesson 6

Some rules for shopping and the list of furnishings for the living room

Did you ever stop to think how many small things make up the comfort of a room? The Sunnyside girls list the necessary articles for the living room and learn some rules to guide them in shopping.

Miss Ashley was very much pleased with the lists handed in by the girls, giving their ideas of the cost of necessary articles of furnishing for the bedrooms and bath. She said she would keep them until the day of the shopping trip, and then the girls could compare their costs with the articles chosen. They would also have some idea before going to the stores of approximately how much money could be spent for each article, and would know that if a little more was spent for one thing it would have to be deducted from something else. The girls of the Ellen H. Richards School learned how to buy. Can you tell

I. Some ideas to have in mind when going shopping.

1. Knowing what one needs.

FIG. 21. — This is the living room in which Miss Ashley and the Sunnyside girls entertained.

two of the important points they learned to keep in mind? Yes, knowing what one needs before going to the store, and knowing also about how much one can afford to spend for it. When one has these two points in mind, one is not apt to be tempted to pay too much or to buy unnecessary things. Dorothy Vincent said she thought that they had learned something else which would help them in shopping. It would not reduce the cost but would make shopping more satisfactory. They had planned the color schemes for each room and could select furnishings to harmonize with those colors.

2. Knowing how much one can spend.

Miss Ashley asked the girls to think about their studies of color. Thinking about color is one way of studying it. Observe what Nature teaches; she makes no mistakes. Have you noticed the sunsets on a misty day when all is gray, and on a clear day when the effect is quite different? See how lovely are the backgrounds of foliage of brown or green or the so-called middle values of gray or purple. The bright colors are used in patches by way of relief, a gay color here and there. Notice, too, the plans for gradation of color,—the sky is the lightest value and the ground the darkest. Miss Ashley says that Mrs. Edwards in planning her furnishings succeeded so well because of her true color appreciation. Many women fail in planning their color schemes because of a lack of true appreciation of color. Girls must study about color as well as about

3. Knowing about colors needed to harmonize.

other things if they are to combine colors well in furnishings. It is another expression of refinement, and every girl wishes to know about this as it will be useful in choosing colors for clothing, as well as for home furnishings. Have you had much of this study in your school? Mrs. Edwards said that for simple interiors the color schemes having one predominant color are very pleasing. A good combination is a large amount of one color and a small amount of the contrasting color in a subordinate relation, or another way would be to take one tone, such as yellow, and to plan different intensities and values of this hue. Miss Ashley said that it is more difficult to combine complementary colors. Do you know what is meant by complementary colors? Such an arrangement makes both colors stand out and must be used with care. Think how many things the Sunnyside girls must remember in order to combine the colors of furnishings harmoniously with the wall colors!

4. Knowing about the meaning of simplicity.

Miss Ashley said that there is one guiding principle which she hoped they would all keep in mind in shopping; that is, simplicity. She told the Sunnyside girls that this is always an evidence of good taste. Many people do not practice it. It means having about one the things which meet the needs of everyday living and of comfort, rather than many useless things. Many people buy just for the love of buying rather than to get the things which are needed or useful. This means filling one's home with unnecessary articles. Simplicity in home furnishing

means avoiding mixtures of all kinds of furnishings and materials. It means having one picture or print which is good rather than half a dozen bright chromos in large gilt frames. If one thinks about simplicity as a guiding principle, she will prefer for decoration one simple vase with a single spray of flowers rather than a roomful of bric-a-brac to collect dust. Miss Ashley said that one's purchases and choices express one's individuality. She hoped that the girls might learn to express simplicity, honesty, and truth in theirs. It is a good guide to think always of use as well as beauty in purchasing furnishings. Miss Ashley reminded the girls of their visit to Mrs. Edwards' apartment. She had made a real study of beauty and simplicity. Perhaps you can visit the home of someone who has done so.

II. The characteristics of a comfortable living room.

Miss Ashley told the girls that in many modest homes parlors have long ago become unfashionable and one finds in place of them the comfortable living room. Can you think what such a room should provide for in its furnishings (Fig. 21)? It is the common meeting place of the whole family and should be a place of relaxation for all. Shall we learn how the girls pictured the living room as it should look at the Sunnyside apartment, before they made the list of furnishings? If you are planning for a school apartment or helping mother at home to plan for the furnishing of any room, you will find it a help to make a picture in your mind's eye of how it should look.

This room, because of its frequent use, should be one which can be easily aired and cleaned. No bad smells should pervade because of lack of fresh air. There should be no stuffy furniture to collect dust and make cleaning day a burden for the home maker, who has little space in a city for beating and cleaning furnishings outdoors. This room should offer warmth and cheer, comfort, and opportunity for relaxation.

The Sunnyside apartment had steam heat; but the cozy open fireplace, where the logs really burned, added cheer for all who entered there. Some comfortable chairs should be near the fireplace and on the desk or table a good light for reading. A couch, a place for books, a piano if one has one, will make this room a restful spot for all. Such a comfortable place can be arranged if one knows how and has made a study of these things. Can you see this picture and what the Sunnyside girls had to keep in mind in selecting the furnishings for this living room? They wished to contribute to the true comfort of Miss Ashley, Miss Roberts, and a visiting friend, and to create an atmosphere of rest and cheer. Do you think we keep all of these principles in mind in furnishing our homes, and collect about us the things which are to help us from day to day to live in a better way? Much of right living depends on this. Girls and mothers must learn how to make home a happy place so that all will enjoy staying in it. Have you tried at your home?

The girls realized also that this room at the Sunny-

side apartment would be used a great deal by Miss Ashley and her friends, as well as by the school children. This influenced them in their choice of furnishings. Will frequent use affect choice of furniture? Will you have to think of this?

The Women's Club of Commonwealth City has asked the girls to help furnish one of the club rooms.

The girls listed the necessary articles for the living room, and Constance Moore put the list on the board. Of course the girls kept in mind the use of this room and the comfort of those using it. Can you see evidence of this in this list of articles which the girls considered to be necessary?

III. The necessary articles for the living room.

THE LIVING ROOM

1 rug
1 desk
1 waste paper basket
1 desk chair
1 desk blotter
1 comfortable wicker chair
1 couch
1 mattress
1 mattress pad
2 pillows
1 couch cover
1 dimity spread
1 blanket
1 comforter
3 sheets
1 straight chair
1 rocking chair
3 pillow cases
3 huck towels
2 bath towels
1 chiffonier
1 chiffonier cover
2 pairs cheesecloth curtains
2 pairs chintz curtains
4 curtain rods
1 pair portières
2 covers for couch pillows
1 pair bookcase curtains
1 lamp
1 small table
pictures

Suggestions for Review

1. Write a description of the way you would like a living room in your own home to look.

2. What is meant by simplicity in furnishing? Tell how you would carry out this principle if you were furnishing your bedroom.

3. If you were planning to buy new furnishings for your living room at home, what shopping suggestions have you learned which should help you to purchase wisely?

4. The Day Nursery at Commonwealth City asked the Sunnyside girls to help furnish the play room for the babies. What do you suppose they chose?

5. Perhaps mother will permit you to help refurnish the living room if this is necessary. If it is not, make a plan of what you would do if it were possible for you to help.

Lesson 7

The List for the Dining Room and Some More Suggestions for Shopping

Do you realize how important a place the dining room is? One spends many hours there each week. The Sunnyside girls plan to make theirs a cheery, comfortable place. What do you think will help to make it so?

The Sunnyside girls realized how many things there are to keep in mind in furnishing a dining room and discussed them with Miss Ashley (Fig. 22). This important room should be as sanitary as possible and easily cleaned, for it is here that one's food is served. Do you know the relationship of health to cleanliness? Many people do not appreciate this and eat their meals in

I. The characteristics of a comfortable dining room.

FIG. 22. — The Sunnyside girls spent many happy hours in this cozy dining room.

stuffy, dark places where sunshine and air are not always admitted.

It should be furnished conveniently, too, and should be bright, attractive, and cheery, for this is the place where one entertains one's friends. Hospitality, we know, is one of the things Miss Ashley told the girls should be planned for in every home. Do you think they kept this in mind in choosing the furnishings? The girls listed the necessary articles and included in this list the dishes for use at table, although they thought that possibly they might have to be kept in the kitchen pantry rather than in the dining room.

II. The necessary furnishings for the dining room.

THE DINING ROOM FURNISHINGS

1 rug
1 table
6 chairs
1 serving table or sideboard
1 silence cloth
1 tablecloth
1 set doilies
½ doz. napkins
2 curtain rods
1 pair cheesecloth curtains
1 pair chintz curtains
12 teaspoons
6 dessert spoons
6 knives
6 forks
12 tumblers
6 oatmeal dishes
6 dessert dishes
6 dinner plates
6 tea plates
6 cups and saucers
6 bread and butter plates
1 platter, small
1 platter, large
2 open vegetable dishes
1 cream pitcher
1 sugar bowl
1 water pitcher
2 salt shakers
1 bowl for flowers
1 carving set
1 brass serving tray

Can you recall the suggestions that Miss Ashley gave the girls for shopping guides? There have been several. Dorothy Vincent recalled every one. Miss Ashley said that in selecting the furnishings listed for the different rooms the class should be guided by these thoughts. Appropriateness, she said, is as important as simplicity in choosing the articles one wishes to live with. Do you understand what this means? It is poor taste to select unusual or pretentious furnishings. Mrs. John Edwards understands that principle very well and has shown good judgment in the choice of articles for her house. She knows that the things we have about us represent our ideals and our standards of living. For example, she felt that it would be very poor taste for her to try to copy furnishings such as her friend Mrs. John Oliver has. The Olivers have an income of $10,000 a year and Mrs Edwards' husband has only $1500. She could have bought cheap imitations of Mrs. Oliver's furnishings, but this would have been poor taste and not at all appropriate, as her standards of living are quite different. A cheap quality of anything which imitates what others with different standards of living can afford is always poor taste. Furnishings should be appropriate to one's station in life and should be within one's income. A reception room with gilt furniture may be quite appropriate in the homes of the rich where there is much entertaining, but in the

III. Miss Ashley gives some more suggestions for shopping.

1. Appropriateness of the articles chosen.

home of a teacher, a business man, or a farmer with a comparatively small income, it is very bad taste and inappropriate. It is better to use simple cheesecloth curtains and wicker or cottage furniture, if one can afford them, than to use cheap imitations of brocaded fabrics, upholstered dining room chairs, and other articles which may be appropriate and beautiful in some homes. Miss Ashley said that often one can measure the appropriateness of articles by asking, how useful are they? "Dust collectors," such as a great deal of bric-a-brac, are seldom useful or appropriate. Think of the hours spent in dusting and keeping them clean! Furniture with much carving, twisting, and ornamentation is also a consumer of time and is apt to be very inappropriate in most homes. It is inappropriate, as it is also uninviting and unhealthful, to put a thick carpet and heavy draperies in a bedroom, and in the same way stiff, uncomfortable period chairs are inappropriate in a living room intended for ease and rest. Do you see how important it is to think of appropriateness? Our choices of articles for our homes show our thoughts, our ideals, our good sense. Miss Ashley wished the girls to have all these things in mind in shopping.

2. Select articles with good lines.

The Sunnyside girls had studied a great deal with Miss Washburn about "good lines." Do you know what they learned or studied about in discussing "good lines"? Perhaps you have studied about this, too. Miss Ashley said that in shop-

ping this study should help one to choose articles which will be pleasing. Do you remember from your art work that sharp, jerky lines spoil the effect of a design and that ugly angles so formed are not pleasing? One prefers rhythmic lines which flow one within and into another. You have learned to like the pleasing decoration which fits the space for which it is planned (Fig. 23). There will be plenty of opportunity in choosing the furnishings for your school apartment to think about good lines. One should think about this a great deal. In selecting a house one judges the proportions of the outside and says that it has good lines or poor lines. One likes the harmony of the good lines when the proportions are correct. Sometimes if the construction lines of a house or room are poor, it is possible by means of decoration to correct some of the defects of *line* and to produce more pleasing effects. Do you remember how when the ceilings are high one can lower the effect by means of a *line* or border carried down on the wall? Do you recall what a horizontal line made by a picture molding does to a room? We shall study some day about hanging pictures. They, too, make lines. Lines make spaces and designs. One must think about this in placing rugs on a floor, for spaces and

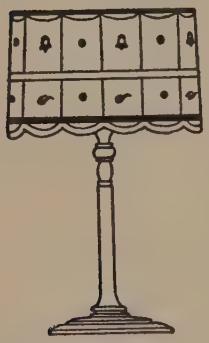

FIG. 23. — The designs fit the space. All household furnishings should demonstrate rhythmic lines and good design.

lines are formed. It must be kept in mind in choosing the patterns for draperies and other furnishings, and especially in choosing wall coverings. Do you remember what effect the vertical lines in wall paper are liable to produce? So Miss Ashley said that "*good lines*" are equally important to bear in mind in our choice of furnishings. Another shopping suggestion!

Another thought is that of decoration and is closely related to the big idea of choosing things with "good lines." Articles with "good lines" are apt to be simple and do not need much decoration. When buying one should always notice the decoration. Many articles really useful are made hideous by poor decoration. The decoration should be simple and should fit the space it occupies. It is astonishing how many people who know this and have studied about it in their art classes forget it entirely when they go to the shop to buy furnishings. There are many things to remember in furnishing a home, — hygiene, economy, art, — but beauty in furnishing depends on the harmony of these. The Sunnyside girls are learning that in choosing their furnishings they will be guided by these ideas: Is the article useful? Is it durable? Does it please in form, in color, in decoration? So many guides to help one to decide whether or not the articles are desirable!

3. In choosing, think about the decoration of articles.

Suggestions for Review

1. In selecting furnishings for a dining room, in what way should appropriateness be a guide?
2. What principles do you think guided Mrs. Edwards in shopping for her household furnishings?
3. What is meant by arranging furnishings to produce good lines?
4. Make a list of all the guiding suggestions which Miss Ashley gave the Sunnyside girls for use in shopping for furnishings.

Lesson 8

A talk about bedroom furnishings

Before going shopping Miss Ashley gave a talk on kinds of furniture for bedrooms. This was a great help to all the Sunnyside girls. Would you like to know what they learned before you begin to choose furnishings for your school apartment or for your bedroom at home?

I. A review of the points to bear in mind in furnishing a bedroom.

Have you ever thought what a pleasure it would be if you could begin all over and furnish your bedroom with just the things you wished? What ideals would you have in mind in choosing the new furnishings? Constance Moore said in answer to Miss Ashley's question that she would make it pretty. Dorothy Vincent thought that she would consider cleanliness and comfort. Margaret said that appropriateness of articles would be in her mind, and their simplicity in line and decoration. We cannot all furnish new bedrooms, but we can begin to change our bedrooms to make them sanitary, simple, attractive, and comfortable. We can at least

discard many of the useless things, the "dust collectors," which so quickly accumulate.

Let us study what the Sunnyside girls learned in planning for the bedroom furnishings.

II. What the girls learned in planning for the bedroom furnishings.

Miss Ashley told them that one third of life is spent in bed, so it is most necessary to choose a comfortable place to sleep, for one must rest well in order to work well. The girls studied about beds. Miss Ashley had some catalogues with pictures of beds to show them. These came from a good furnishing house in a near-by city and Miss Ashley announced that they would order some of their furnishings by mail from the catalogue. There were brass beds, wooden beds, iron beds, couches, and springs of various kinds. The girls learned from the catalogue that springs are ordered separately from the framework of the bed, and that sometimes the bed couches include the springs. Miss Ashley told the girls that wooden beds were not suitable for their use as very often in the cleanest apartment houses vermin are liable to get in and the cracks in wooden beds are the places they like best. The brass beds shown in the catalogue were too ornate and too expensive. The girls liked best a single white enamel bed without brass trimmings which cost $16 with spring. They thought this very suitable for Miss Ashley's bedroom, and she liked it, too (Fig. 24). Single beds are always more hygienic than double beds when two people must

1. A good bed is necessary for efficiency.

(*a*) Single beds are preferable.

occupy a room, as it is *much more* healthful for people to sleep alone. Miss Ashley said they might also decide about the couches, as one would be needed for the living room and Miss Roberts preferred a couch in her bedroom. There were several varieties in the catalogue. The girls finally chose one with a spring firmly woven at the edge. Miss Ashley said that that is an important thing to remember in buying a bed spring, too. The box springs are much more expensive as the springs are inclosed in a frame and covered with ticking, which adds to the expense. They are very comfortable, but sometimes difficult to keep clean. The cost of the couch was $12.50, a little less than the bed. Dorothy Vincent in looking over the catalogue discovered what she called a double decker bed, such as is used sometimes in bedrooms on steamboats. She said that her mother had bought one for her sister and herself. Their apartment was small and the double deck bed took up less room and gave each a single bed.

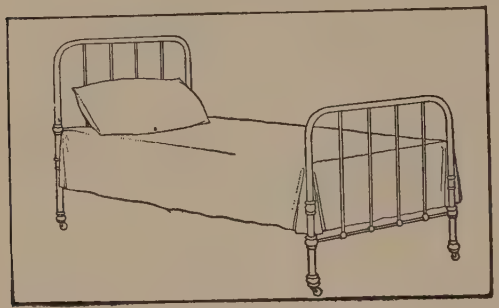

FIG. 24. — A comfortable bed is absolutely necessary for efficiency.

(*b*) **Springs should be closely woven at the edge.**

The catalogue also advertised mattresses and pil-

lows, and as the firm was a reliable one Miss Ashley said that they would also purchase mattresses from them. Hair is of course the best, but also the most expensive, mattress filling. Feather beds or mattresses are unhealthful, as they absorb the body moisture and are too warm. A cotton or felt mattress is good and less expensive. Excelsior is sometimes used. An old blanket or thick pad can be used to cover the mattress of cotton or excelsior and adds much comfort. A mattress pad helps to keep the mattress clean as well as comfortable. The girls looked at all the descriptions and prices and decided on good cotton mattresses for all the beds, costing about $12 each. The same kinds of pillows were also selected for all. Miss Ashley said it is very important that one should know the content of the pillows one rests one's head upon daily. Duck and goose feathers well washed are the very best kind but are expensive. Chicken feathers are also used, but one must be sure that they have been well washed and disinfected. They would study about the bedding another day, Miss Ashley said, and would buy it in town.

(c) Mattresses and pillows.

The girls next discussed the subject of bureaus and tables. The catalogue showed some simple cottage furniture which had good lines and simple decoration and plain turned wood handles. Most of the bureaus were too expensive, but Constance discovered a very simple dresser with drawers but without a mirror (Fig. 25), which

2. Bedroom bureaus, tables, chairs.

was about the price she had allowed, and she also found a mirror with plain frame which she thought might be hung above it. The bureaus cost $12 and the mirrors $4 each. Miss Ashley said that the modern so-called cottage furniture is very good in style as it is simple in line and design. The picture shows the bureau chosen by the girls. Do you like its simplicity? The wood is of a soft gray color, and dull in finish. The girls chose the same kind for Miss Roberts' room, except that it was of a warm brown color. Sets of furniture in bedrooms used to be the style, once upon a time, but they are apt to be monotonous. Chairs of varying styles add interest, such as a wicker chair or one of Windsor style. You may see both in the pictures (Figs. 26 and 27).

(*a*) Cottage furniture simple in line and design.

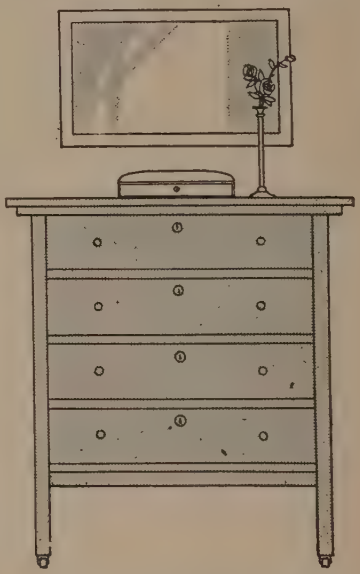

Fig. 25.—Notice the good lines and simplicity of these furnishings.

Miss Ashley had a number of pictures of simple, inexpensive chairs of the cottage furniture style; all were suitable for bedrooms (Fig. 28). Mrs. John Edwards had some old chairs which had belonged to her grand-

(*b*) Characteristics of the furniture of Colonial period.

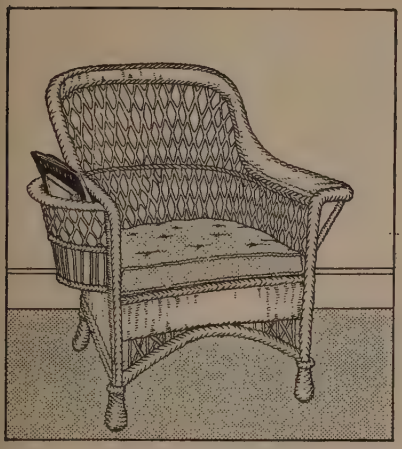

FIG. 26. — The comfortable wicker chair chosen for the living room.

FIG. 27. — Why do you like this chair?

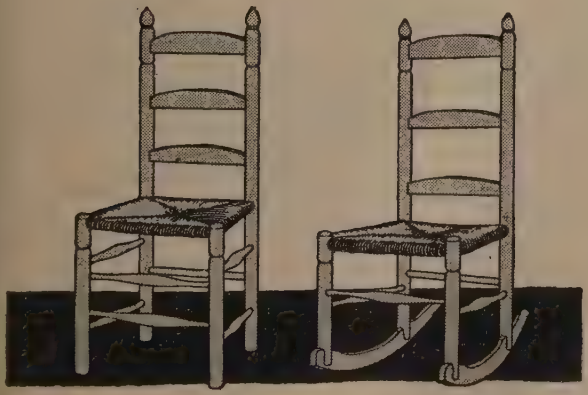

FIG. 28. — Some simple cottage furniture good in line and design.

FIG. 29. — One of the old rush seat chairs inherited by Mrs. John Edwards.

mother and which she had inherited. Do you like their rush seats (Fig. 29)? Mrs. Edwards used one at her desk in her bedroom. She also had an old mahogany bureau and a tiny tip table (Figs. 30 and 32). Do they interest you? She was very proud of these three old pieces. The good old furniture of the Colonial period was characterized by its simplicity of line and design (Figs. 31 and 32).

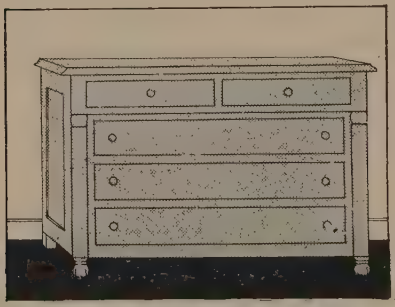

FIG. 30. — Mrs. Edwards' old bureau.

Miss Ashley said it is very interesting to learn about furniture of different periods and to be able to identify it. Perhaps, like Mrs. John Edwards, you have some old pieces in your family. Mrs. Edwards asked the girls to come in at any time and look at hers, and Miss Ashley put several books with markers on the laboratory table and asked all the class to study some of the good old styles. The pictures showed several good old pieces (Figs. 31, 32, and 33).

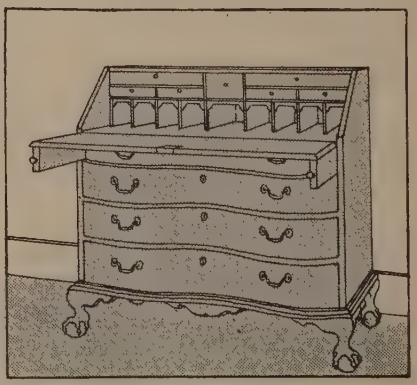

FIG. 31. — Mrs. Edwards enjoyed using this heirloom.

The girls decided for the Sunnyside apartment that as their money was limited only one chair, a comfortable one, was possible for each bedroom. They decided on one of the comfortable wicker chairs like the picture. This, too, was ordered from the catalogue. Margaret Langley kept a list of all the style numbers to be ordered, and she was commissioned to write the letter when ordering time came. The girls decided to get the same kind of chair for Miss Roberts' room, and also one for the living room. Miss Ashley said that they could cover the seats in different ways if they wished. Dorothy Vincent said she didn't see how Miss Roberts could manage with such a chair if she had to use it for her desk chair in her bedroom. It was finally decided that only the one chair was possible and that it would be an easy matter to move one of the dining room or living room chairs when Miss Roberts wished to work at her desk.

(*c*) **The chairs chosen.**

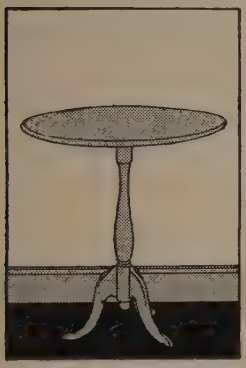

FIG. 32. — Another of Mrs. Edwards' heirlooms.

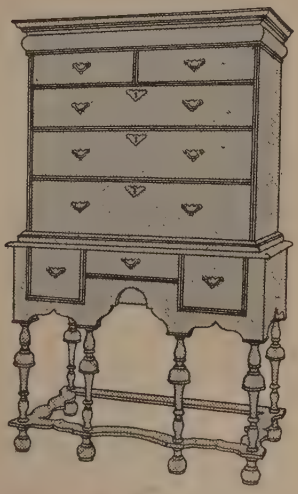

FIG. 33. — One of the good old pieces of furniture shown in the furniture book Miss Ashley had.

The question of a table for Miss Ashley's room was next discussed. Constance said that in putting down the approximate prices of furnishings all she could allow for the table was $3.50, and that she didn't think it was possible to buy one for that price. Miss Ashley said that where there is a will there is very often a way, and that she had thought of a way. There are times when one can practice economies if one knows how. She turned to the simple kitchen tables and discovered that they cost $4; those with a drawer, $5. Miss Ashley asked the girls whether they liked the shapes of the tables and whether they seemed suitable and appropriate. "Why not stain and wax them to match the bureaus?" she asked. All the girls were delighted at the prospect and decided to make them the same color as the bureaus, and to put the one with the drawer in Miss Roberts' room for a desk table (Fig. 34).

(*d*) Tables.

FIG. 34. — The kitchen table stained and used as a desk table.

The question of curtains was next discussed. Miss Ashley had samples to show the girls of dotted swiss,

Brussels net, madras, and scrim. Constance didn't like any of these and wished Nottingham curtains with figures. Miss Ashley told them that such curtains are very clumsy and most unsuitable in a simple home, especially in a bedroom, and are also very difficult to wash and stretch. The scrims and swisses cost from 25 cents to $1 per yard. One of the girls took the yard stick and measured roughly. She thought that at least 1½ yards would be needed for each window, if the material came only to the sill. Miss Ashley had a curtain to show the girls which she had used at her summer home. It was so simple and seemed so appropriate that the girls all exclaimed, "Let's have some like that!" Miss Ashley said that even with the tiny gimp edge at 3 cents per yard, they had cost only 65 cents a pair; but of course she had had to make them herself. What material do you suppose they were made of? Cheesecloth, which cost about 16 cents per yard. One can buy the unbleached color for less, and one can pay as much as 50 cents per yard for it. In your own bedroom at home perhaps you can afford swiss or some other material, or even then you may decide to use the simple, inexpensive, cheesecloth ones. They are easily washed, and are appropriate for use in bedrooms. Miss Ashley gave the seventh grade the work of making all the furnishings for the apartment, so they were to plan the curtains, couch and bed covers, bureau covers, etc.

3. Curtains.

(a) Materials.

Miss Ashley said that there are several ways of hanging curtains. One must remember that they are for decoration, to soften the lines of the wood casing, and for privacy in a bedroom. Overhangings are a matter of taste. Any dust catchers are unsuitable in a bedroom, but one can remove curtains and shake out the dust or wash them if they are made of suitable material. Think of this always as you furnish your rooms. Of course the simple ways of hanging curtains are best in a bedroom. See the pictures; which do you prefer? What criticism would you make in relation to "good lines"? Miss Ashley thought that the straight lines of the curtains either with or without a valence were pleasing (Fig. 35). You can see a valence in the picture. They are easy to make, and are pretty, made rather deep, in a room with a high ceiling, or narrow, in a room with a low ceiling (see Fig. 17). Sometimes they are placed between the side curtains or over them. For decoration, valences are sometimes put around the bottom of beds between the spring and floor. If used they should be washed often. The girls decided to have the cheesecloth curtains hang just to the window sills. They were to come next to

(*b*) Hanging curtains.

FIG. 35. — Curtains may be hung with or without a valence. Do you like this arrangement of curtains?

the window sash, hang in soft folds, a width each side, and could easily be kept clean. Miss Ashley said that a one-inch hem across the bottom and along the center edges looks well, and is pleasing either with or without the narrow gimp edge for a finish. The girls decided to have two sets of curtain rods — one for the cheese-cloth curtains and the other for the chintz. A narrow casing for the rods to slip in easily can be made at the top of the curtains. If one has no rods, wires or strong cord can be stretched from nails at the sides, but of course this is unsatisfactory if the weight of the curtain sags the wires.

FIG. 36. — Japanese toweling was used for overhangings in the bedrooms.

All the girls wished overhangings. Miss Ashley had a picture to show them. Do you like the effect? Notice that only half a width of chintz is used on each side. It is quite full enough (see Fig. 35). A tiny hem was turned to the right side of the bottom edge and center of the curtain and the tiny gimp costing 3 cents per yard placed flat over the turned edge. This made a neat finish. Miss Ashley showed another picture (Fig. 36). Do you prefer it? In this window two strips of Japanese toweling were used. This toweling comes with figures in blue or yellow

(c) **Shall overhangings be used?**

and makes an effective decoration. The cost is 20 cents per yard. The Sunnyside girls immediately said, "Suppose we have the yellow figured for Miss Ashley's room, and the blue for Miss Roberts'." Did they think of color harmony and all the other points, do you think?

Some of the girls said that they thought they could almost see the things which were to go into Miss Ashley's and Miss Roberts' bedrooms. No rugs had been discussed, but Miss Ashley said that they would discuss them when considering rugs for the living room and dining room. This discussion helped the girls to know what they would have to get in going shopping. Ordering some things by mail made the shopping easy. This can be done when the firm is a reliable one and a good catalogue is furnished.

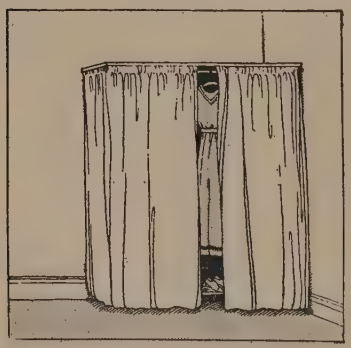

FIG. 37. — Constance Moore had planned by means of such a closet space to keep her clothing free from dust.

Margaret said she thought that some arrangement should be made for hanging clothes in the closet. There was a pole from side to side on which hangers could be placed, but she thought some extra hooks and hangers on the closet door were needed. Constance Moore said she had had no closet in her bedroom in the house where she used to live, but that her mother had ar-

ranged a place in the corner of the room with a chintz cover. Miss Ashley said that this was necessary for neatness, for otherwise the room would look untidy and the clothes become dusty. Can you understand from the picture Miss Ashley showed the girls how such a corner can be arranged (Fig. 37)?

Suggestions for Review

1. In the library books on home furnishing find some pictures of good old Colonial chairs, suitable for a bedroom. Trace two, and bring to school.

2. Describe how you would like to arrange the curtains in your bedroom. Draw a picture to illustrate.

3. What kind of bed do you prefer for your bedroom? Give reasons.

4. Look in the appendix and compare the final cost of the furnishings for the Sunnyside apartment with the approximate list you have made of furnishings for the bedrooms.

Lesson 9

A talk about the furnishings for the living room

Miss Ashley discusses the furnishings for the living room before going to the stores. This saves time, for the girls then have some knowledge of the kinds of furniture within their means. Shall we, too, learn about this?

I. A comfortable living room reviewed by the girls.

Miss Ashley asked the girls to recall the characteristics of a comfortable living room. She said that they would first discuss the floor covering. The girls all knew that the most sanitary kind of floor is a bare one. It was of course possible to leave the hardwood

floors without covering, but the girls, and Miss Ashley, too, preferred to have rugs in both the living room and dining room. All agreed that they add warmth and coziness, too.

The girls were asked to suggest what one should have in mind in buying the floor covering. All answered at once that what one could afford to spend would influence selection, also that the colors should harmonize with wall colors. Dorothy said that she thought use should also affect choice, for many people would use the apartment besides Miss Ashley and Miss Roberts. All the girls recalled what Miss Ashley had said about the darkest values being underfoot, and realized that neutral tones must be selected (Fig. 14). Miss Ashley told them of the different kinds of floor coverings which they would see in the store. Of course there is a great variety. Carpets come in many colors and in patterns of various weaves, such as velvet, ingrain, Wilton, and body Brussels, and are sold by the yard. The girls knew that they would not choose those for their purpose. Do you know why?

1. The floor covering.

(*a*) Carpet.

Then there are floor coverings of fiber, such as Japanese and domestic mattings, which are sometimes used when the whole floor is to be covered, and the denims, which are cotton and used sometimes for an all-floor covering with a padding beneath. Do you think that any of these would be sanitary at the Sunnyside apartment, considering its use?

(*b*) Matting.

(*c*) Denim.

Miss Ashley told the girls that several small rugs on a floor tend to make a room look smaller. One good-sized rug adds to the spaciousness.

(*d*) **Rugs.** Many kinds of materials are used for rugs. The grass fiber or matting ones are the most inexpensive. The rag rugs or braided rugs are also cheap and are useful for some kinds of furnishings. Miss Ashley said that at a school practice house where she taught one year the girls collected old pieces of ingrain or Brussels carpets which many of the girls had at home. These were sent to a carpet manufacturer, who cleansed them, pulled them apart, and wove them into "Fluff" rugs, which are reversible. The cost for making a rug 4×6 feet was $5. Such a rug takes from 20 to 25 pounds of old carpet.

Then there are soft, reversible rugs of wool called "Smyrna" rugs, and rugs of body Brussels and Wilton, which are very serviceable. The Scotch art wool rugs are also good and come in patterns of two values of one hue, as those with a border design, or those with simple figures. Of course the most ideal floor covering is the beautiful, durable Oriental rug, which is so lovely in texture and coloring, and, like old mahogany furniture, is a choice possession. Mrs. Edwards had in her living room a lovely Oriental rug which was a wedding gift. Such rugs are very durable, they are made by hand, and much of the wool which is used in weaving them is hand spun. They are imported from the East, from Turkey, India, Persia, and other countries. They vary

in value, and one must be a judge of color, design, texture, quality, and workmanship in order to know their worth. The different countries have characteristic designs. There are so many things to learn about floor coverings!

(e) The floor coverings chosen for the Sunnyside apartment.

Miss Ashley gave the girls an approximate idea of the prices of the different kinds of rugs. They soon realized that either a fiber rug, or one of the Scotch wool rugs, would be all they could afford. The color was next discussed. Of course Miss Ashley said that they would be influenced by what they could get although often the desired combination of colors may be ordered. The book of sample colors was referred to, and the girls decided that a tan of very gray hue would harmonize excellently with the color of the walls, floors, and woodwork, and would be a neutral value of color underfoot. Do you like the color scheme as shown in the picture (Fig. 21)? You will see that the rug chosen had some figures of old blue which were in harmony with the wall color. Constance Moore said she thought that it would be very satisfactory to have the same kind of floor covering for the dining room and that it would add to the effect of the size of the rooms. Do you agree with her?

(f) Rugs for the bedrooms.

The girls thought that of all the rugs they had learned about, the fiber or rag rugs were most suitable for their bedrooms and all they could afford. The question of color was discussed. Of course all realized that they would have to be

guided by what the stores offered, but still it was well to have something in mind before going to the store. They recalled the color of Miss Ashley's bedroom, gray and yellow, and realized that if possible a combination of dark gray, yellow, black, and white would be very harmonious. For Miss Roberts' room, with its brown floor and buff walls, and the blue figures in the window hangings, the girls thought that a combination of browns and blues would probably look well. Think how much easier it is to shop when one has in mind how much she can afford to pay for the different articles and the colors she would like for the different rooms. You will see in the pictures of the bedrooms how well the rugs harmonized (see Fig. 18).

The curtains for the living room were next discussed, and all thought that the same kind of cheesecloth curtains for all the rooms would be most suitable, with a variation in the overhangings. Then there took place a discussion of color for chintz hangings, the same material to be used also for the wicker chair cover, and for the top of the chiffonier which had to be placed in the living room. Miss Ashley had some samples of inexpensive chintzes. What color combina-

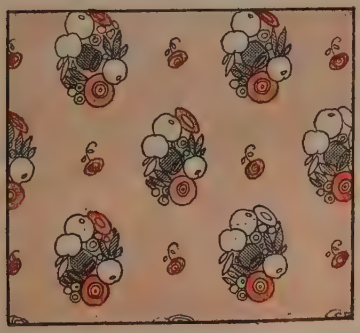

Fig. 38. — The chintz chosen for the living room.

2. The curtains for the living room.

tions would you have chosen? The girls decided on the one shown in the picture, of gray-tan, blue, and a little yellow and black (Fig. 38). The effect of the light through the material was very pretty when all was finished. Do you like it?

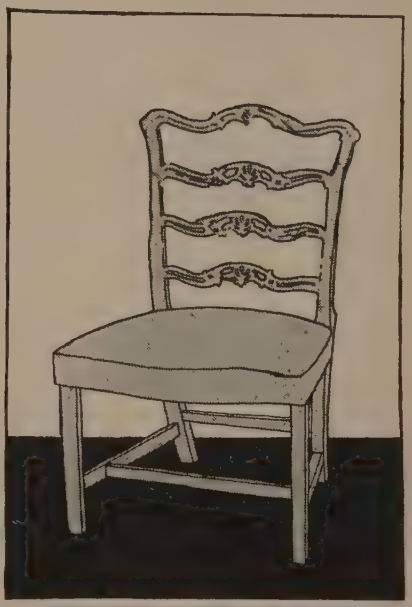

Fig. 39. — An example of Chippendale.

3. Shall portières be used?

They then turned their attention to the doorways and Miss Ashley asked for opinions in relation to portières. All agreed that the spacious effect would be spoiled if curtains were hung between the living room and the dining room. The girls disliked the appearance of the large double doors leading to Miss Ashley's bedroom and thought that portières to cover them would be effective, especially if the same material could be used for the couch cover and some pillows. Miss Ashley had many samples, and a cheap material called "linon" of a gray-brown color was finally chosen, but not until the girls had purchased the rugs, for Miss Ashley said that they might more easily find textile materials to harmonize with the rugs than a

4. Couch cover.

rug to go with the material; so they simply kept the color scheme in mind until the rug was found.

The girls then listened to what Miss Ashley had to say about chairs. They had already decided to have one of the comfortable wicker ones. Have you ever thought of how many different kinds of chairs there are, and that many of them have names? They are named according to style or the period of time when they were used, as Colonial, meaning about the eighteenth century, Georgian, Jacobean, and Louis XIV or XV. Perhaps you have heard that there were several English cabinetmakers of the eighteenth century who were real artists and designers? They were Thomas Chippendale, A. Heppelwhite & Co., Thomas Sheraton, and James and Robert Adam. Not all cabinetmakers are artists, but these men were. Many pieces of modern furniture are copied from designs made by these old furniture makers, from English or Colonial models, and are generally in good taste. Sometimes the

5. Chairs for the living room.

(a) Characteristics of different periods.

FIG. 40. — An interesting example of the designer, Sheraton.

manufacturers go to the museums in large cities to copy the choice pieces. The pictures (Figs. 39, 40, 41) will show some characteristic examples of the work of these old designers. Can you not look up something about their lives and work? It is an interesting study to be able to identify the old models. If you have inherited any of grandmother's old mahogany chairs, treasure them carefully. Have you ever studied the chairs at your home? Perhaps you have some which belong to the Colonial period or possibly

(*b*) The leading furniture designers of the eighteenth century.

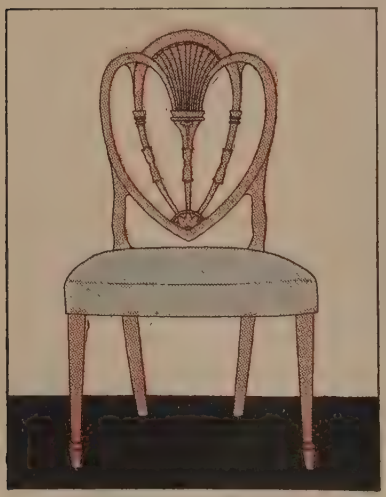

FIG. 41. — This is an example of Heppelwhite design.

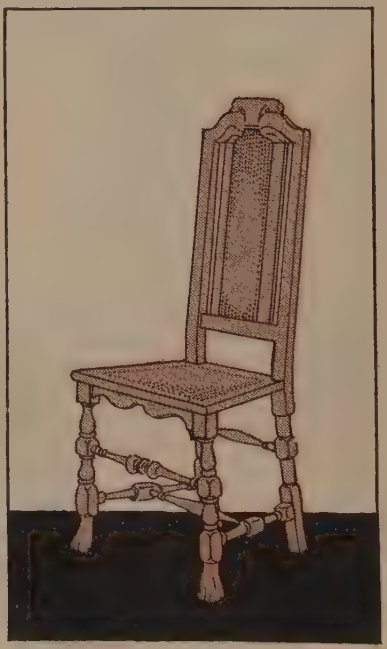

FIG. 42. — An example of Jacobean style.

some designed by the firm of Heppelwhite or Sheraton or Chippendale. They are real treasures if you have.

The Sunnyside girls of course realized that they could not afford the old pieces, but they wished to select furniture which would be simple in outline and decoration, for they knew from study that those were the characteristics of the old pieces. The picture will show you the chairs which they chose, — one straight one with good lines for the desk, and a comfortable rocker (Fig. 43).

6. The furniture chosen.

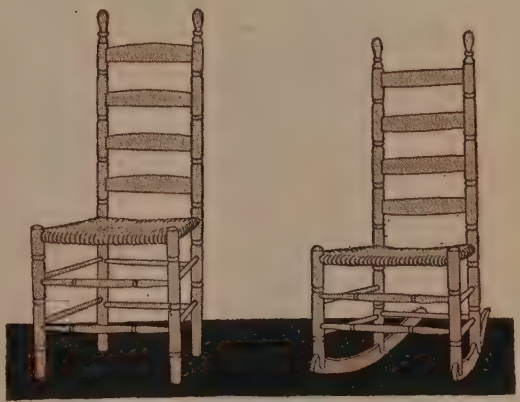

FIG. 43. — The girls chose these chairs with good lines for the living room.

The girls felt that a chiffonier was not exactly suitable in the living room but decided to have it, because it was necessary, and to choose the most inconspicuous kind, with good lines and simple decoration (Fig. 44). The same thought was in mind in choosing the desk. You will remember that the couch which was selected for this room was simple and comfortable.

Miss Ashley had a pair of brass andirons which she loaned to the apartment to use in the fireplace. They

added a bright tone as brass usually does, and the built-in book closet above, filled with good books, added a cheery note of welcome at the fireside. A small desk table near, with a lamp on one end, and a lovely fern on a stand by the window, finished the furnishing of this room except for the pictures, which were few. Some of them belonged to Miss Ashley. Some day she will tell the girls her ideas about the choice of pictures and how to hang them.

Fig. 44. — The chiffonier used in the living room.

The boys of the Ellen H. Richards School made the stand for the fern which you see in the picture of this room, and they also put up the book-shelf between the windows for Miss Ashley's home economics books. Do you like the appearance of the comfortable easy chair by the window? The girls think Miss Ashley will enjoy sitting there when she reads her daily paper.

If you will look in the appendix you will find a memorandum from Miss Ashley's notebook telling the cost of all the articles which were finally chosen for this Sunnyside living room.

Sometimes when conditions permit it is wise to have a combination living and dining room. The table

can be used as a reading and study table and cleared at mealtime. The furniture selected would vary somewhat; one might not select a side table and the usual dining room chairs. Such a combination room can be furnished very successfully if thought and care are used in the selection of furnishings.

Suggestions for Review

1. Write a composition describing the different kinds of floor coverings. Which would you use if you were furnishing a simple house?

2. Look up the history of the furniture made by Thomas Chippendale and Thomas Sheraton. Try to find illustrations of both in the library. Trace one of each and bring to school.

3. What were the principal characteristics of the furniture of the Colonial period?

4. What is your idea of a cozy living room? Perhaps you can find a picture which expresses your ideas.

Lesson 10

The Dining Room Furniture

The girls begin to realize that knowing what one wants before going shopping is a great aid in selection. They study the necessary furnishings for the dining room of the Sunnyside apartment.

Have you ever realized how much a family uses a dining room and how important it is to have the room cheery and bright? It is here that the family meets as a whole and the news of the day is discussed. The broad north window in the Sunnyside apartment gave good light, so the girls decided to use the same kind of

I. The dining room a place where the family gathers.

cheesecloth curtains as in the living room and to have the overhangings of the same chintz. The rug was the same as the living room one in color but slightly smaller. The problem then before the girls was to think about the dining room furniture. All the girls in chorus told Miss Ashley that they had not been able to plan for a dining room table or chairs! Miss Ashley simply said that some home economics work would be necessary and suggested that a large kitchen table, with

1. The curtains and floor covering the same as the living room. Why?

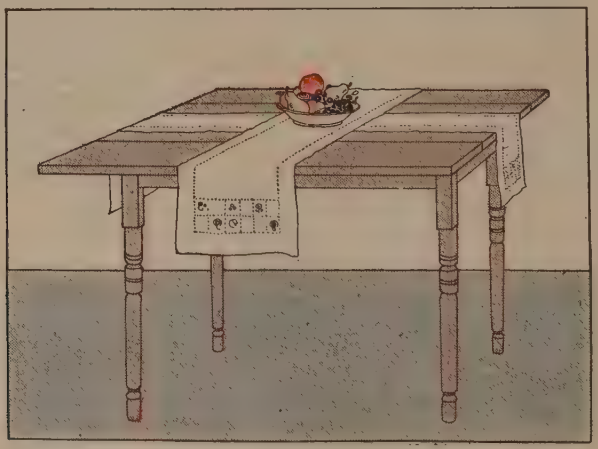

FIG. 45. — The drop-leaf table used in the dining room.

drop leaves, be bought and stained and waxed like the tables in the bedrooms. Such a table costs about $7 and will seat six people. Miss Ashley showed them pictures of a number of very suitable tables for a dining room, but all were

2. The dining room furniture.

too expensive. She also had some sketches of lovely old Colonial tables and sideboards but the girls knew that they were simply to be admired, and their characteristic of simplicity copied in what they chose. This was difficult, too, for most of the catalogues had very ornate furniture. The drop leaf table was simple and seemed to answer the purposes of

(*a*) The table.

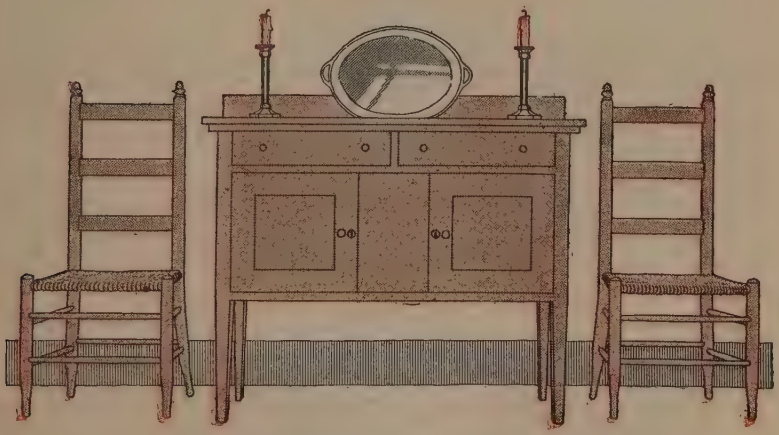

FIG. 46. — The dining room chairs and sideboard.

the Sunnyside people. Look at the picture and see whether you approve of the general effect (Fig. 45).

The sideboard or table chosen was not a lovely Sheraton but a simple one of cottage furniture, dull brown in color like all the other pieces chosen (Fig. 46). It cost $12 and was simple in line, with very little decoration. The picture shows Mrs. Edwards' Sheraton sideboard which she inherited

(*b*) The side table.

from her great aunt. Are not the lines beautiful (Fig. 47)?

(c) The chairs.

The chairs were a problem, for all agreed that not more than $1.75 could be spent for each, and six were needed. The girls looked at all Miss Ashley's pictures of chairs, old and new, and agreed that the simple cottage chairs were the most suitable. Do you think the little chair which was chosen is appropriate? Are the lines simple? Has it good decoration? It has a woven splint seat and a dull brown wood frame. Of course it is not polished wood, but the frame is strong and the chair is very comfortable (see Fig. 46). The picture (see Fig. 29) shows another dining room chair which is in good taste when one can afford to spend more money. Which do you like the best? Which would you choose for your dining room if you could?

Fig. 47. — Mrs. Edwards' Sheraton sideboard.

Miss Ashley had promised to talk about pictures, and she said she thought this was a good opportunity. The pictures one lives with should be chosen very

carefully, and after they are chosen they should be framed and hung properly. The size and the shape of a picture must be considered in relation to the space on the wall which it is to occupy (see Fig. 48). Too many pictures are not really effective or artistic and simply collect dust. In hanging a picture, vertical wires with two hooks are preferable to the slanting wires when only one hook is used. Do you see the difference? Why do you prefer the picture with two hooks (Fig. 49)? Sometimes Miss Ashley used the small glass tacks. They do not spoil the wall and are very suitable for small or medium-sized pictures when the wires do not show at all. Pictures should be placed where they can be enjoyed. Most people hang pictures too high. Sometimes several small ones can be grouped effectively in one space. Miss Ashley said that gold frames are as a rule suitable only for oil paintings or for colored prints, and in a simple home, oil paintings or copies are

3. Choosing pictures and hanging them.

(*a*) Hanging pictures.

FIG. 48. — This Japanese print is well hung in a suitable space.

(*b*) The frames and mats.

not in good taste; they belong in the homes of the wealthy or in picture galleries. The framing of the picture is very important. Have you ever entered a room with a dark wall and been conscious of ever so many white spots jumping to greet the eye? Such picture framing is not pleasing. Miss Ashley said that the moldings and mats chosen in framing should be in harmony with the walls and woodwork.

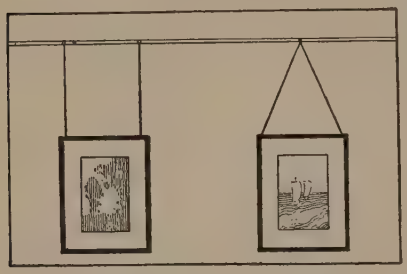

FIG. 49. — Which way of hanging pictures do you prefer? Why?

What pictures to choose if one can select new ones is always an interesting problem. Family portraits are not suitable in a dining room, neither are large pictures of fruit and cake in good taste. There are so many lovely sepia prints, copies of etchings, Japanese prints, and photographs of splendid reproductions of pictures by famous artists that there is no excuse for buying ugly chromos of fruit and flowers. Do you know the lovely sepia prints? Miss Ashley had some to show the class. She said it is always better to choose a few good pictures than to have a large collection of poor ones. Most homes have too many. Miss Ashley had a beautiful brown sepia print of a flowing river framed in a dull brown molding, which she loaned for the

(c) The pictures to choose.

dining room. In fact all the pictures were her own. Another was a beautiful Japanese print in yellow tones which harmonized so well with the blue walls (Fig. 48). It was framed in a black molding. Another of Miss Ashley's pictures was a photograph of one of Corot's landscapes. He was a French artist, you know, who loved nature and copied the lovely hazy effects one sees so often. Miss Ashley thought this would look well over the couch in the living room. Then there was another picture, a lovely etching which the girls enjoyed very much because of its fine drawing and dark and light; they thought that would look well over the desk table, between the windows.

Miss Ashley then talked about the necessary table dishes and silver. She had brought up from down town on approval several patterns of silver and several plates of different designs. She told the girls that when one can have only one set of dishes it should be chosen very carefully. The pattern should be simple and unobtrusive, and the colors those which will be harmonious with many kinds of colors or table decorations. Some of the girls liked the plate with the large pink flowers; others preferred the blue and white china, which is very pretty for occasions and in good taste if one has two sets. The one finally chosen was of stoneware, as the real china was too expensive. It had a very pretty border of green and brown with a tiny bit of gilt to outline the edge (Fig. 50). All the girls were

4. The dishes and silver.

pleased, for they knew that the neutral colors would harmonize with any kind of table decoration, or with flowers, or with holly at Christmas time. Another point Miss Ashley advised was to purchase dishes from an open stock. That means that one can buy what one wishes and that the pattern is a standard one and can be replaced when dishes are broken. This is preferable to buying a whole set, which often contains pieces one never uses. Miss Ashley had the girls look up in the encyclopedia about the wonderful china factories in France, where the lovely Sèvres and other kinds of beautiful ware formerly were made. Do you know the Copenhagen china or Minturn? Can you learn about those, too?

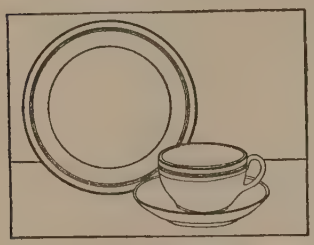

FIG. 50. — The design chosen by the Sunnyside girls.

The silver was a very plain pattern. You will see two patterns in the picture (Fig. 51). Which do you think the girls chose? Why do you think they liked one better than the other? They were also very particular about choosing plain glass tumblers without fancy decoration, and a glass pitcher, creamer, and sugar bowl which were very simple in pattern. They might have bought cheap imitation cut glass but preferred the plain kind, which is easily cleansed (Fig. 52).

The dining room as it finally appeared was a joy to all. The side table had a cover of chintz like the

hangings, and Miss Ashley placed her glass candlesticks at the ends and a large brass tray standing against the back of the center of the table. The drawers held

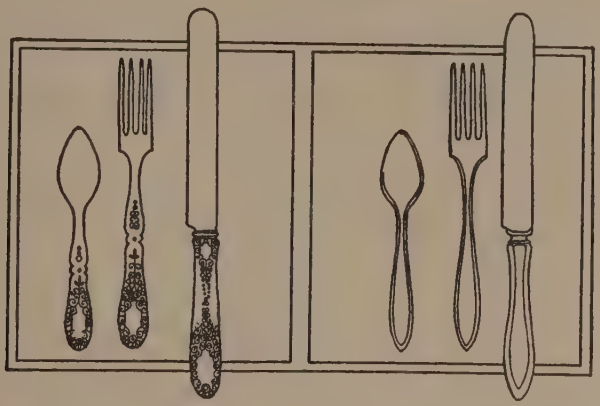

FIG. 51. — Which pattern would you prefer? Which emphasizes simplicity and good taste?

the silver and the carving knife and fork as well as the doilies and napkins in use. Soon Miss Ashley will talk to the girls about purchasing the household linens.

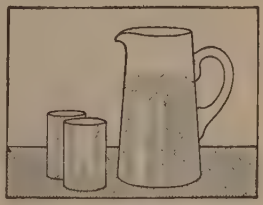

FIG. 52. — Simple glassware is always preferable to cheap cut glass.

Do you not think the suggestions for furnishing the dining room were good ones? How would you have planned otherwise if you had approximately $100 for everything? In the appendix you will find the cost of all the articles chosen for the Sunnyside dining room.

Suggestions for Review

1. If you were buying a set of dishes for a Christmas gift for mother, what would you have in mind in choosing them?

2. Trace from some of the school library books on home furnishing some good chairs suitable for dining room use. Tell why you like those you chose.

3. What important points should one have in mind in choosing pictures to live with? What does good taste in choosing pictures mean?

4. Give some useful suggestions for hanging pictures. Do you think those suggestions can be applied anywhere but at home?

Lesson 11

The Kitchen Furnishings

The kitchen is the most important room in the house; do you know why? The Sunnyside girls studied about this before going shopping.

Constance Moore said she thought the kitchen should be made as attractive as any room in the whole house (Fig. 53). Miss Ashley agreed and said there was absolutely no reason why this room should not be a pleasant and attractive workshop. Have you ever thought of this room in that way? It is here that the food is prepared, that the raw materials are made over into attractive foods. First of all, it must be absolutely clean and sanitary. This is beauty, too, for a kitchen which is not clean is not an attractive or beautiful place. The question of floor covering was discussed first. The wood floor was in good condition, and Miss Ashley said that the

1. The kitchen a workshop.

1. The floor covering.

agent was willing to smooth it off and paint or oil it. Of course linoleum or oilcloth would have been suitable, and

FIG. 53. — A corner of the Sunnyside kitchen.

linoleum preferable, as it is perhaps the most ideal floor covering for a home kitchen. Mrs. Edwards is planning to have a linoleum in her kitchen some day. It is easily cleansed and is soft to the feet, too. She is saving for this.

Of course it had been decided to paint the walls, as paint is most sanitary, and as you know, a buff color was chosen. Miss Ashley believed that nothing should be placed in the kitchen which is not washable.

2. The walls.

The stove installed was a gas range, and the kitchen also contained a small ice box and two washtubs. This is not ideal, but in a small apartment one cannot as a rule have a laundry or a place for the ice box outside. There was also a built-in dresser for dishes, with a place for pots and pans below. There was no question of planning to save steps here, for the room was small and nearly everything was within reach. Dorothy Vincent said that in their kitchen in the country one could walk miles every day while preparing the meals. Miss Ashley said that under those conditions it is important to arrange the pieces of kitchen furniture to save steps and energy. Miss Ashley asked the agent to raise the kitchen sink. It was a good porcelain one of the open kind, well placed near the window, but was too low. Nearly all the girls would have had to stoop while working, and their backs would have been in a poor position for work.

3. The arrangement of the kitchen furnishings.

The furnishings chosen were most simple, and only the most essential things were bought. The girls made a shopping list as they had for all the other rooms. In the appendix you will find the list of articles bought

4. The kitchen should be attractive and comfortable.

and how much each cost. No table was bought for the kitchen, as the tops of the tubs were covered with white oilcloth and answered for a table. There was a half curtain at the window and two lovely red geraniums in pots were placed in brackets at the side. These made an attractive spot of color.

The girls decided to have a window box for use in cold weather. It is then unnecessary to use ice. Here is a picture of one (Fig. 54). It is very convenient and if it is well covered with oilcloth the food placed within can be kept clean and free from dust.

Fig. 54. — This is a great saving and very useful.

Look at the picture of one corner of the Sunnyside workshop. Do you think it looks ready for action? You will notice that there is a place for everything and that the jars contain some of the foodstuffs. A kitchen cabinet like the picture is very useful, but there was no room for one at the Sunnyside flat, neither could the girls afford to buy it; when one can, it is a useful thing to have and saves many steps and much energy (Fig. 55). There was, however, a place for everything. The girls hung the cups on tiny brass hooks in the dresser. On the side of the dresser wall, and also on

the door, were convenient hooks for necessary cleaning brooms and brushes. The boys placed a shelf quite high where clothes basket, boiler, and other articles could be placed, and there was a tiny shelf for the necessary cookbooks. Would you not like to work in such a comfortable, attractive kitchen? The Sunnyside girls enjoyed using the room as they came to prepare meals and to practice many of the things learned at the school laboratory.

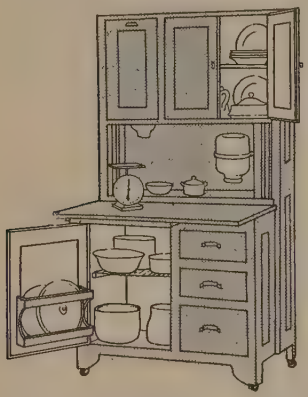

FIG. 55. — A kitchen cabinet is a useful timesaver if one can afford one and has place for it.

The problems of housekeeping are half solved when one has a clean, convenient, attractive kitchen with everything in its place.

SUGGESTIONS FOR REVIEW

1. What do you think are the characteristics of an ideal kitchen?

2. What do you think is the advantage of having everything in its place?

3. What suggestions have you to offer in reference to making a kitchen attractive?

Lesson 12

A LESSON ABOUT PURCHASING HOUSEHOLD LINENS

The Sunnyside girls expect to go to town to buy all the household linens. What should they know before going to the store?

Miss Ashley said that this lesson would be a kind of review for the eighth-grade girls, for they had learned some things about textiles in the lower grades, and in the seventh grade had studied textiles especially. Learning to purchase the household linens is important and is a textile lesson. Experience is a good teacher, but knowledge so gained is often paid for at a high price. Miss Ashley told the girls that they would learn to buy with knowledge back of the experience. It is easier to learn beforehand what to guard against in purchasing household textiles.

I. The textile problem one for women to understand.

Our great-grandmothers were sure that their household textiles would wear, for they knew how each step in their manufacture was taken and that all was honest and the materials were durable. When the factory system of manufacture was introduced, conditions changed; and to-day women know comparatively little about textile fabrics. This ignorance helps to increase the cost of living, because many wasteful expenditures are made for household textiles. About one fifth of the moderate family income is spent on textiles for clothing and household furnishings. Is it not necessary then for girls to learn how to make the

dollars buy as much as possible? Some of us cannot afford to buy all pure linen or all wool, but we would like to know how much the materials we buy have been adulterated. There is no pure textile law to enforce labeling of materials as there is for foods, so women cannot always tell, in buying materials, about their composition. They can learn to judge, however, and to study the problem, for a knowledge of the composition of textiles and how they are manufactured will always be a guide in helping women to choose wisely. The scarcity of textile materials and the increased wages of workers, because of war conditions, have increased the cost of all textile furnishings.

Miss Ashley said that they would have to purchase textiles for several purposes for the Sunnyside apartment: the bedding, the personal towels, the kitchen linen, and the table linen.

As we have learned, the bedding is very important, for one should rest well. Miss Ashley said that a pad is essential for cleanliness and helps to make the bed more comfortable, too. A quilted pad is usually made of a thin layer of cotton between unbleached muslin. It is quilted with rows of stitching. Such pads cost $1.50 for a single bed. Constance said that at her house they used the old thin blankets for this same purpose. They are useful and as good as the pads.

II. Shopping suggestions for buying household linens or textiles.

1. The bedding.

(*a*) The bed pad.

Sheets are made of either cotton or linen. Most

people can afford only cotton. Sheets should be bought wide enough to tuck in and long enough to be turned down at the top over the blankets for 15 or 18 inches. This length prevents the blankets

(*b*) **The sheets and pillow cases.**

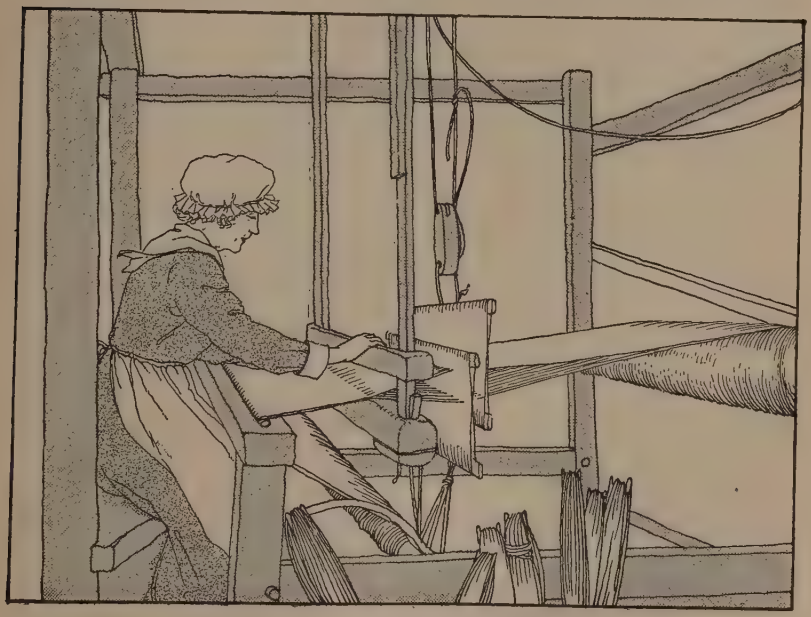

FIG. 56. — Grandmother Potter weaving.

from becoming soiled while in use. The usual size of sheets is from $54 \times 94\frac{1}{2}$ inches for single beds to $99 \times 112\frac{1}{2}$ inches for double size. Do you know that our great-grandmothers used to weave their own sheets, but that they used linen for the purpose (Fig. 56)? Do you know why? How long ago was linen used in

Egypt? When was cotton machinery for ginning perfected in America so that cotton was available for use in spinning and weaving? Our grandmothers wove the cloth narrow in width, too, and placed a seam in the center of the sheet. They thought this an economy, for when the sheet became worn at the center they ripped it and turned the outer edges towards the center in a new seam. This sewing was done with the overhanding stitch so there was no uncomfortable ridge.

Cotton sheets ready-made, of good quality, cost now from $1.25 to $3.50 apiece, according to size. Linen sheets of medium grade for single beds cost from $4 to $5 each. If one makes the sheets at home, one buys single width, two-thirds width, or full-sized bed sheeting. If of cotton, either bleached or unbleached can be bought. One should buy a good brand of cotton sheeting; it pays. Sheets which are advertised as cheap are usually no bargain. They are apt to be too narrow or too short.

Pillow cases are made of cotton or linen. They can be bought ready-made or one can make them at home. If purchased ready-made, cotton pillow cases can be bought for as little as 30 cents apiece for those $22\frac{1}{2} \times 36$ inches; and linen ones for $4 per pair up to $8 or $10 per pair. Pillow cases can be made of tubing, which comes ready in several widths so that it is not necessary to seam them but only to hem the ends. This costs from 30 cents to 50 cents per yard and varies in width.

Blankets are made from all cotton or all wool, or a combination of the two; and the price varies according to the mixture and the size of the blanket. They usually come double, called a pair of blankets. The all wool blankets are the most beautiful and of course the warmest. They cost from $15 to $25 per pair for a double bed, while one can buy cotton ones for $3.50 per pair and a mixture of cotton and wool for $8 to $15 per pair according to the percentage of wool in the mixture. The Sunnyside class purchased cotton blankets of single bed size. You will see in the appendix how much they paid for them. Constance Moore said that her grandmother, when a girl, lived in the country, and in those days women made their own blankets. Grandmother Moore said that they kept sheep, and when they were sheared each year she washed and carded the wool, spun it on the big wheel, and then wove it into blankets. Would you like to do all that? Modern machinery and inventions are our helpers, and time is saved for other uses. Grandmother Moore said that it was very interesting work but took much time. Some day we shall study how she used to do this.

(c) The blankets.

Miss Ashley said that in the simple home dimity bedspreads are as suitable as any. They cost about $1.75 to $2.50 for single beds and are not so heavy as the crochet or Marseilles materials so often used for bedspreads. The Sunnyside girls made bed covers for day use, using unbleached

(d) The bedspreads and comforters.

muslin with chintz for the borders. The picture of the room shows how they looked. Beds with the dimity spreads alone are used without the day covers, and are fresh and dainty looking when kept absolutely spotless.

Comforters or fancy blankets for extra warmth are sometimes placed at the foot of the bed, or kept in the closet until needed at night. The comforters are made of cotton or of wool wadding and covered with silk, sateen, or cotton cloth called silkaline. Have you learned the difference between these common, useful materials? The price of comforters varies according to materials used and the bed size, from $3 for single bed size comforter made of cotton with silkaline cover, up to $35 for the wool comforters with silk covers.

Towels, like sheets, are made from cotton or linen and very often from a combination or union of cotton and linen. For family towels huckaback is the most serviceable, in order linen, cotton and linen, and cotton. Huckaback varies in price according to mixture. Linen huckaback towels can be bought for $5 per dozen up, according to size and quality. Cotton huckaback towels of small size can be had for $3 per dozen. Damask is also used for family towels and can be had for about the same price as the huckaback (Fig. 57).

2. Towels for personal use.

Bath towels are made of cotton woven in loops which makes them more absorbent than the cotton huckaback weave. They can be bought for as little as 35 cents each and up according to size and quality.

Towels for kitchen use are also made from all linen or all cotton or a combination of the two. Miss Ashley said that one thinks of two classes of kitchen toweling, the so-called glass toweling and the dish toweling. Crash is very serviceable for dish toweling. It comes in several qualities, and much

3. Kitchen towels.

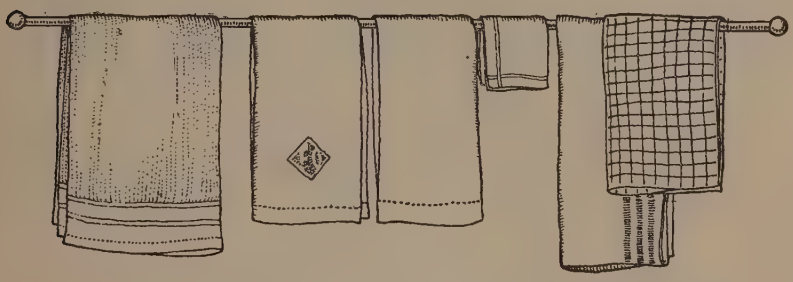

FIG. 57. — Towels for various purposes. Do you know the use of each?

of it was formerly made in Russia. It varies in width, is all linen, and costs from 30 to 75 cents per yard. Glass toweling is often woven with a colored border or a cross bar, all over pattern. In linen it costs from 40 to 60 cents per yard in width of 27 inches. Cotton dish toweling costs from 20 cents per yard up, according to width. Do you remember why it is not quite so serviceable for drying dishes as the linen toweling?

Miss Ashley told the girls that, in buying table linen, they should try to secure the goods received from abroad in December and January, as they are apt to be the bleach of the summer before and usually wear better. Do you recall that you learned that

4. Table linen.

poor bleaching affects the wearing quality of materials? One can sometimes tell this by tearing a sample.

Table damask comes by the cloth, or by the yard, which is slightly cheaper. For a family of five or six a cloth from $2\frac{1}{2}$ to 3 yards is a good size. Two dollars a yard is a fair price for good linen for ordinary use. The cloth should about equal 1 dozen napkins in cost, and a cloth will usually wear as long as $1\frac{1}{2}$ or 2 dozen napkins. Cotton damask can be bought by the yard, and was formerly much cheaper, although war conditions have caused it to advance very materially. The old linen manufacturers of Ireland are to-day using cotton and producing the same beautiful patterns with this textile. The cost is about the same as that of linen before the war.

Linen napkins come in three sizes: $\frac{5}{8}$, 17–22 inches square; $\frac{3}{4}$, 23–27 inches square; and $\frac{7}{8}$, 29–31 inches square. Miss Ashley said she considered the Scotch, French, and Irish linens the best for quality, beauty, and variety of patterns. French designs for damask are the most beautiful. The German damask used to be excellent and the unbleached was less expensive and wore for a long time; it was bought by thrifty housewives who bleached their own linen in use.

III. Suggestions for buying household linens.

Here are a few of the points which Miss Ashley advised the girls to notice in purchasing the table linen.

1. Cost is usually a guide. If it is cheap, beware, as linen is expensive and one should

expect to pay the price to insure a good article. At present all linen is difficult to purchase because of its scarcity, and the price is almost prohibitive.

2. Notice the finish. Sometimes starch and sizing are pressed in in finishing. These wash out in laundering. Notice whether the starch can be picked off. It is better to buy a soft linen than one very stiff with starch which will crack.

3. Notice the weave, as it often affects wearing quality as well as appearance. Satin stripes and long threads on the surface are apt to wear off quickly and often cover defects beneath. The more even, closer weaves stand the heavy ironing better.

4. Sometimes one can tell if the linen is adulterated. A reliable store will sell union goods for what they are and the price will guide one if the dealer is honest. Ravel the material and untwist the warp and woof threads. Are they long and lustrous? The best linen has round threads. Linen fibers appear parallel and pointed at the ends when unraveled; cotton fibers are fuzzy and fly apart. The cheaper linens are made from tow or short refuse. (See page 301.) What do you recall about the manufacture of linens? The long fiber wears better than the threads made from short linen fibers. A drop of oil on linen is a test to be made at home. The oil makes the linen fibers more translucent than cotton. An old-fashioned test for linen was to moisten the linen with the finger when purchasing. Water spreads more rapidly on linen than on cotton.

5. Feel the linen. It is cold and should feel rather heavy when crushed in the hand. Many buyers in department stores judge by the weight. If table linen weighs less than $4\frac{1}{2}$ ounces to the square yard it is not as a rule worth buying. Above that it improves. Reliable firms will tell the weight. Linen is judged by the number of threads of woof or filling to the square inch.

Suggestions for Review

1. Write a short composition on the best and necessary furnishings for a bed.

2. Have a small exhibit of table damask. Ask each girl in the class to bring several articles showing different grades of linen if possible. Mothers have probably saved some from before the war.

3. Tell five points to remember in buying table linen.

THE SUNNYSIDE GIRLS ARRANGE THE FURNISHINGS

CHAPTER III

SOME LESSONS ON ARRANGEMENT OF THE FURNISHINGS AND MANAGEMENT OF THE HOME

LESSON 13

THE ARRANGEMENT OF FURNISHINGS AT THE SUNNYSIDE APARTMENT

Putting furnishings in their right position in relation to one another is an art to be studied. Order, as well as cleanliness, is necessary in a well-kept home. Do you realize how this adds to comfort, too? Learning to manage a well-ordered home is part of the study of home economics.

After the girls had finished listing the necessary furnishings for each room and had studied about the kinds of furnishings available, they had four shopping afternoons down town with Miss Ashley. On one trip they bought the rugs, beds, and couches; another day the chairs and other furniture which they did not order from the catalogues; the third day the household linens

I. The arrangement of furnishings in rooms is important.

and other textiles; the fourth day the bathroom fixtures and kitchen furnishings.

Miss Ashley arranged to have the articles sent on a certain day and planned to have the apartment cleaned before that time. Such a busy time as the girls had! Miss Ashley wished to have the girls clean as much of the apartment as possible in order to put into practice all they had learned (Fig. 113). The place certainly had a wholesome, bright, clean, shiny appearance when all was in order to receive the furniture. Miss Ashley had as many large pieces as possible unpacked downstairs, and so it was a question of arranging and planning to place everything where it would be most useful and look most attractive. The pictures of the rooms will give you an idea of how the things were finally arranged, and the list of furnishings for each room as found in the appendix from Miss Ashley's notebook will give you the amounts paid for each. And the margin? Well, Miss Ashley and the girls spent that, too, for the little extra things one always likes to have — a picture, some brass candlesticks, a pretty plant, a bowl or pitcher — the little extra things which add beauty or comfort for the users. Some of these things will be seen in the pictures and all will be found in the lists.

1. The "extra" dainty touches add to the attractiveness of the home.

Before arranging the furnishings the girls visited two apartments, one where a friend of Miss Ashley's lived and the other that of Mrs. John Edwards. They studied the arrange-

2. A study of successful arrangements helps.

ment of articles of furnishing. Mrs. Edwards' place was ideal, for although she had all the necessary articles for comfort, the place had a truly spacious appearance. So often people have too many articles about, and the rooms are uncomfortable and cluttered. It is an art to be able to arrange furnishings well. Do you think the Sunnyside girls accomplished this? Perhaps you can tell from the pictures. The windows, radiators, and other built-in things in a room limit one in arranging, but in draping windows, laying rugs, in placing chairs and other furniture, one can correct some of the defects and create a harmonious, comfortable whole if one thinks and studies about it. Is it not a question of color, of good lines, of relationship of spots and spaces? Notice that the girls did not place a table in the center of the living room. Can you tell why? In some rooms tables so placed look well. Can you tell why they have not placed a couch before the fire? Many rooms so arranged with a table and lamp back of the couch are attractive. The girls changed the furnishings about in several positions and voted which should be the final arrangement.

(*a*) A cluttered appearance not desirable.

(*b*) Success in furnishing is due to color harmonies, "good lines," and right relationship of spots and spaces.

The seventh-grade girls made all the couch and chair covers, portières, and window curtains. Do you like the relationship of the folds and lines of the curtains to walls and woodwork? How about the placing of the pictures? Are

3. The goal to attain is a homey, comfortable atmosphere.

the walls crowded, or do the pictures fit the spaces where they hang? Do you think it would be a pleasant place in which to live? What is meant by the atmosphere of a home? Do you think this apartment has a comfortable, homey atmosphere?

Do you notice that there is a place for everything? The girls were going to try, too, to keep everything in its place.

Miss Ashley said now that the apartment had been furnished, all the studies would be in relation to living in it. Do you remember that we learned what the home economics studies include? They mean learning how to care for the house, to entertain in it, to sew and to mend, to cook, and also how to plan one's money or income in the best way so that there will be enough for rent, food, clothes, pleasure, and all the other things one needs in order to be well and happy. Mrs. John Edwards learned how to do all these things in planning for her housekeeping. Miss Ashley, Miss Roberts, and the girls planned a budget for their home making. Do you know what it means to make a budget or plan for one's living expenses? Did you know that in cities a budget is planned each year, and that the budget includes the expenses for running the schools? "Uncle Sam" has a yearly budget for these United States of ours. Your father in his business has a

4. Order, with a place for everything, helps, too.

II. How to live in a well-ordered home is part of the study of home economics.

1. What is a budget? It helps one to plan for right living in the home.

budget for running his establishment or factory, or father's employer does. Do you think that if all these people plan and think about how they can spend their yearly incomes so as to get the most satisfaction and make the most money, it is less important in a home to plan to make everybody happy? In the factory, the owner knows, there will have to be expenditures for all kinds of things: new machinery and improvements, repairs, wages of men, heating, lighting, rent, and many other things. What then do you think the home maker will have to remember in planning to run her business well? It is a business, you know, and women must learn this business of spending. Would you like to learn to spend wisely? Men learn the earning business when they go down town to earn the family income. Women should learn the spending business since they are the spenders, as a rule, of the family money. Sometimes, of course, they are the earners, too, and then they must know how to spend as well as how to earn. That is a great deal to learn. We shall study how Mrs. John Edwards managed in her home. She had the wee baby Dorothy, and John Edwards, Jr., and Grandmother Edwards also lived with them. We have learned that their income was $1500. In our next lesson we shall learn how she managed her home successfully. We know that the Sunnyside girls loved to go there and always found it attractive in arrangement and homey in atmosphere.

2. The home maker has a business to run. Shall she have a budget?

Mrs. Edwards was very glad to help them study about the budget, too. She knew that when she went to school she did not have a chance to learn about such things, but had to learn later through experience, which is sometimes a strict teacher.

Suggestions for Review

1. Why is the arrangement of furnishings in a room worthy of thoughtful study?
2. Bring to school pictures cut from magazines showing successful arrangement of furnishings for a bedroom, dining room, living room. This may be for a simple home or an elaborate one.
3. Why is order in the home very necessary for comfort? Give illustrations.
4. Tell how you think a young girl can help at home in the management of a home.
5. Why is a budget a help in running a home?

Lesson 14

Happiness in the Home Depends on How It Is Managed

Have you ever noticed that some homes seem more pleasant than others? Do you like to visit some more than others? Can you tell why? Miss Ashley talked this matter over with the Sunnyside girls, for they wished to learn how to make the apartment a happy place and also how to help at home to make all cheery and happy.

I. The reasons why the girls enjoy Mrs. Edwards' home.

The girls of the Ellen H. Richards School enjoyed visiting Mrs. John Edwards' home in the Sunnyside Apartments. Dorothy Vincent said it was because it was so prettily arranged. Constance thought it was because all the

members of the family were so happy. Miss Ashley said that both girls were right and that the lovely spirit which they noticed in Mrs. Edwards' home was due to a number of things. It didn't just happen, but was because all the members of the family were working together and coöperating. That is, love, unselfishness, and respect for the rights of each were all helpers in the coöperation. Have you learned the meaning of the word coöperate? Boys and girls can coöperate in school. It is a good thing to learn to do, for men and women must learn to coöperate in this great world of ours if we are to have peace and happiness. It means that each must learn to be helpful and unselfish and to "give in" a little. That is why the girls enjoyed Mrs. Edwards' home, for all of her family had learned how to coöperate.

1. Pleasing arrangement and furnishings.
2. Pleasant atmosphere.
(*a*) Due to coöperation.

Miss Ashley said that another foundation stone of a happy home is knowing how to manage it well. Mrs. John Edwards had studied and planned how to spend the income very wisely in order to bring about the greatest happiness for all. Do you know that in some families people plan to do without food to have new hats? Do you think they will be happy wearing them if their bodies are not properly nourished? Others plan in such a way that there is no money left for a little fun. Do you think the members of that family will be happy? So one must plan to spend wisely, to include all the

(*b*) Also good management of income.

things which will make one happy, and able. Coöperation will bring about the best things in the family and in the community in which one lives. Would you, too, like to know how Mrs. John Edwards managed? Miss Ashley said that she and Miss Roberts would plan to spend their income wisely at their Sunnyside apartment in order to make it as happy a place as Mrs. Edwards' home.

II. One must be well and happy in order to enjoy one's home.

Mrs. Edwards said that one must be well and happy in order to enjoy the home which one has planned, and so she studied about the many things which one must know in order to keep well. She discovered, too, that work, pleasure, exercise, and rest, are all essential, as well as knowledge about proper food and clothing, pure water, sunshine, and fresh air. She knew that each day she must plan, as must all the members of her family, for a time for quiet sleep with plenty of good air; for some time for pleasure each day as well as for work; for exercise in the sunshine if possible; for the right clothing and for personal cleanliness; for good food and good water; as well as for happy thoughts. Mrs. Edwards tried to plan for all of these things, because she knew she must if she wished to keep well and make her home a happy place. When people are sick all the time their homes are not apt to be happy places. Miss Ashley said Mrs. Edwards planned, too, to make someone else happy each day, and she believed that that was one

1. The essentials of healthful living.

reason why Mrs. Edwards' family was such a happy one. Sometimes it was a kind act, a thoughtful letter, or a few flowers for a friend which Mrs. Edwards picked when she walked out into the country with her husband in the lovely early summer evening. She didn't forget about exercise, you see. Sometimes, too, she made jelly for her sick friends or old Mrs. Vincent, Dorothy's grandmother, who enjoyed it especially; and again she had money to give to the Red Cross or to other good causes. The Sunnyside girls thought it must be splendid to live and to plan in that way in order to have something to give. It does not matter how small one's income is; one can plan to give something if one has learned to manage and is planning one's life rightly.

III. Mrs. Edwards had a budget.

Mrs. Edwards said that a plan for spending one's money is called a budget. She said that she and Mr. Edwards have had a budget ever since they were married. They did not always follow the plan exactly, she said, but it was a great help to have it. It is somewhat like using a pattern. It may just fit Dorothy, but may have to be changed in one way to fit Constance and altered slightly in another way to suit Margaret. So with a budget; it can be adapted to one's life and income. Miss Ashley told the girls about her little niece Katherine Ashley, who lived in Philadelphia. She had all the necessary things, provided and paid for by her father, who earned the money,—a place to live, food, clothing, pleasure, education, a doctor when sick, a dentist, and all the

1. A budget explained.

other necessary things, but Katherine also had 25 cents each week which Aunt Ruth gave her for spending as she pleased. Aunt Ruth said Katherine must in turn have a plan for spending the money if she provided it. This is how they worked out Katherine's budget (Fig. 58). Five cents each week was to be saved; five cents was to make someone happy; ten cents was to be spent for anything she wished; and five cents was to be given to some charity at the church or Sunday school she attended. Would you like to know how Katherine's plan worked? Sometimes she saved her ten cents for herself, until she had thirty or forty cents, and then she bought a doll or a new ribbon or something she wanted very much. Sometimes she bought a soda or some candy. From the five cents to make someone happy she derived much pleasure. One day she bought Aunt Ruth a rose when she was ill. Another day she bought mother a surprise; it was a new tape measure, because she had lost hers. So many things which she found to do with her money to make others happy! The money to be saved was deposited twice each year at the National Bank of Philadelphia. Aunt Ruth told her that it was always wise to have something saved for a rainy day. Do you know what a rainy day means? So Katherine planned to spend her income, and her budget

2. Katherine Ashley's budget.

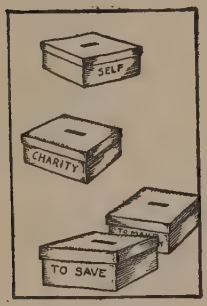

FIG. 58. — Katherine planned her budget. Can you?

plan was to have $\frac{1}{5}$ of her 25 cents for charity, $\frac{2}{5}$ for self, $\frac{1}{5}$ for savings, $\frac{1}{5}$ for making someone happy. Often mothers and fathers plan their incomes, too, as Mr. and Mrs. John Edwards did, but in their plan they have to think of more things to spend their money for than Katherine did. It brings much happiness to have a plan and to know whether one's money is being spent wisely and to greatest advantage. We were told that women should learn the spending business, but mothers and fathers together should learn to plan to spend wisely (Fig. 59). Girls and boys can help in this matter, too, and make the income go farther if they know the family plans. Sometimes we do not know how much is spent for each item of living expense until we begin to keep a budget. Would you like to know how the Edwards family planned? In our next lesson we shall study the details of their budget.

IV. All families should have a budget.

1. Girls and boys can help with the spending if they know the family plans.

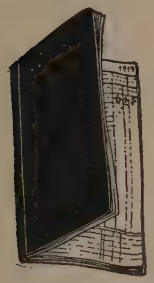

Fig. 59. — Have you a family account book at your house?

Suggestions for Review

1. What is meant by a spirit of coöperation in the home?
2. What other reasons did the girls give for enjoying Mrs. Edwards' home?
3. What did Mrs. Edwards tell the Sunnyside girls were the essentials of healthful living?

4. Why did Mr. and Mrs. Edwards think that a budget helped to make the home a happier place in which to live?

Lesson 15

THE SUNNYSIDE GIRLS LEARN ABOUT MRS. EDWARDS' BUDGET

Mr. and Mrs. Edwards had an income of $1500 a year. Sometimes gifts of money at Christmas time increased their income to about $1600 or $1800. Mrs. Edwards planned, however, on a basis of $1500. She told the girls and Miss Ashley how she managed to make all the family happy. Are you as anxious to know as the Sunnyside girls?

I. The Edwards' budget.

The following are the items of expense for which Mr. and Mrs. Edwards had to plan in making the budget:

1. Items of expense.

1. Food
2. Rent
3. Clothing
4. Service, laundry, repairs
5. Light and fuel
6. Carfare
7. Savings; Life insurance; Put in bank
8. Church and charity
9. Summer vacation
10. Doctor and dentist
11. Books, gifts, entertainments, incidentals, miscellaneous

These items are quite different, you see, from Katherine Ashley's items of expense, and unlike those of Miss Washburn, the art teacher, for she boarded at Mrs. Langley's and did not have to think of paying the rent, or gas bills, or some of the other items. In her budget those expenses came under the head of lodging and board. So you see each person must plan in a different way.

2. Miss Washburn's items of expense differ.

Girls and boys also can learn to keep a budget and divide their spending money, just as Katherine Ashley did, to get the greatest amount of happiness in spending it.

Mr. and Mrs. Edwards had been studying about the best way to divide. Many people have thought about this problem and some have written about it.

II. Many people have written about the best way to divide the family income.

Do you remember that the Sunnyside girls attended the Ellen H. Richards School? You, too, have learned as they did that Mrs. Richards was one of the first women in the United States to think about home economics studies for girls and boys at school. Mrs. Richards lived near Boston. She wrote many books about home economics; some day you will wish to read them. One is called "The Art of Right Living." Another is "The Cost of Living." (It was these books which Mr. and Mrs. Edwards read.)

1. The Edwards studied Mrs. Richards' division of income.

The Sunnyside girls had heard about Mrs. Richards from Miss Ashley, who knew her. Up to the time of her death Mrs. Richards was very active in the society called the American Home Economics Association, and Miss Ashley used to meet her at the conventions and also when she visited Boston and called on Mrs. Richards there at her laboratory.

Perhaps you would like to plan as Miss Ashley and the Sunnyside girls did. They celebrated Mrs. Richards' birthday each year. Miss Ashley always had some

flowers which were afterwards sent to some schoolgirl who was ill, and the girls planned to read selections from "The Life of Ellen H. Richards," which was written by Miss Caroline Hunt. The mothers were invited too, and the girls served refreshments. This year they planned to have the celebration at the Sunnyside apartment. It is possible, too, to get suggestions for celebrating Mrs. Richards' birthday by writing to the "American Journal of Home Economics," Baltimore, Maryland. Some of the girls had heard about the pageant which is published by the Journal for the E. H. Richards Fund, and planned to send for it and to have an entertainment this year in the school auditorium. The money raised would be used for the E. H. Richards Scholarship Fund and the purchase of bonds for this purpose.

(*a*) The Sunnyside girls learned about Mrs. Richards, too, and always celebrated her birthday.

Mr. and Mrs. Edwards studied "The Cost of Living" and arranged their expenses under these heads, somewhat as Mrs. Richards suggests in her book.

I	II	III	IV	V
Food	Rent	Clothing	Operating Expenses of the Home	Other Expenses
				Savings
			Light	Church and charity
			Fuel	Summer vacation
			Service wages	Doctor and dentist
			Repairs	Books
				Entertainment
				Pleasure
				Incidentals

(*b*) All their expenses are kept under one of these five heads.

These are the things for which the Edwardses had to and wished to spend money. Do you know that sometimes people spend too large a percentage of their incomes for one thing and then have nothing left for fun or for giving? They have only the "have to's" and not the "wish to's." Is that wise, do you think? Have you ever heard of a father who spent nearly all the family income for tobacco and drink? What do you suppose happened to that family when there was no money for clothing or food or good times? Was that a good plan or a good budget? Miss Ashley knew a teacher who spent much of her income for new hats and dresses. She never had any money for books or for traveling in order to attend the teachers' meetings in other cities. Was her plan a good one? She soon lost her position because she couldn't keep up to date in her work.

(*c*) A wise plan of spending includes all of these essentials for happy living.

In Mrs. Richards' book there is a plan to help one to spend wisely. It is not easy to plan if one's income is uncertain, but even then one should make some kind of plan or sailing chart. What do you think would happen to a vessel at sea if it had no plan or chart for sailing? Here is one of the plans for a mother and father and three children which the Edwardses studied. They had an income of $1500 per year. Many other people have worked this out, too, and have divided the income in other ways.

(*d*) What percentage of income should be spent for each division.

I. Food	$600 per year
II. Rent	300 per year
III. Clothing	180 per year
IV. Operating Expenses	150 per year
V. Other Expenses	270 per year

This is simply a sailing chart. Sometimes one must change one's plan of sailing as we said the pattern must be changed, and spend different percentages for these principal items. Mrs. Edwards told the girls how they planned.

Mrs. Edwards believed that one must be well nourished in order to be well, happy, and efficient, and so the largest part of their income was spent for food. Mrs. Edwards had learned how to buy economically, to store some foods, and to preserve others for winter use. In the summer and fall, when fruits are very cheap, she bought in quantity for very little money, and she and Grandmother Edwards preserved the fruit. She had also learned the food values and knew how to substitute a cheap food for a more expensive one and still have her family well nourished (Fig. 60). In the next book you will learn how the Sunnyside girls studied about this, too. Six hundred dollars for food means that for fifty weeks they could spend

III. Mrs. Edwards explained in detail how she "worked her plan."

FIG. 60. — Food consumes most of the small income. How much does food cost for your family?

$12.00 a week, or $1.70 a day. Two weeks were spent for vacation, and this food expense was included in the fifth division, "other expenses." 1. Food expenses. It is a very interesting study to learn how to buy the largest quantity and the best and most inviting food with the amount of money one has to spend. In the companion book to this you will learn what one can buy for varying amounts, and still be well nourished.

The Sunnyside apartment, where the Edwardses lived, was a little out of town, but Mr. Edwards made it a part of their plan to walk the mile to business, and so saved carfare and had some daily exercise as well (Fig. 6). He met one of his friends on the way; they usually discussed current problems of the day which were of interest to them, and so they started the day with a pleasant walk, and with good fresh air in their lungs. This helped Mr. Edwards all day, for the bank office was liable to be very poorly ventilated. Mr. Edwards usually walked four miles a day, for he often returned home for lunch. Mrs. Edwards said that this saved about $25 a year for carfare, which would otherwise have had to be included as rent, or else they would have had to move nearer town and have a less desirable apartment for the same amount

2. Plans for rent.

Fig. 61. — Rent for house or apartment consumes another part of one's income.

of money. They paid for their Sunnyside apartment $340 for the year; twenty per cent of their income was $300, but as the apartment was steam heated they did not have to purchase coal, which many of Mrs. Edwards' neighbors had to do who lived in small homes near, or in the old-fashioned apartments where stoves were used. That is, $40 of the money for operating expenses went towards rent, because they did not have to buy coal for heating, but paid for steam heat. The Edwards thought this a very satisfactory arrangement.

We have learned that operating expenses mean repairs, service, fuel, and light, used in running the home (Fig. 62). The Edwards used gas for cooking and electricity for light and their bills averaged $3 a month or $36 a year, — during winter months more and in summer much less. Mrs. Edwards and her mother did most of the daily work, but each week had a laundress come for half a day. She did all the washing and part of the ironing and Mrs. Edwards and her mother finished it. They paid Mrs. Adams $1.25

3. Operating expenses.

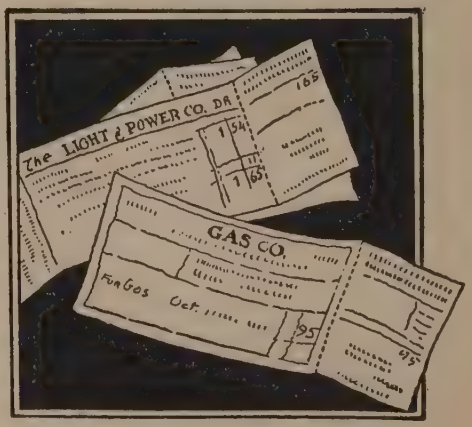

FIG. 62. — What is meant by operating expenses?

for the half day, and gave her breakfast and lunch. Grandmother Edwards had a way of managing on washing day. She used her electric iron in the dining room and enjoyed the work, for she planned to sit on a stool while ironing and to have the basket of dampened articles on the table near, and so was able to save her strength. She ironed all the napkins, doilies, towels, and handkerchiefs without tiring. She usually ironed baby Dorothy's clothing, too, for she loved to do this. The underwear, stockings, and bath towels were not ironed, but were smoothed and folded neatly. This saved time and strength. Mrs. Edwards used doilies nearly all the time; they were easier to launder than tablecloths. Sometimes she sent all the sheets and towels to the Sunshine laundry when the laundress, Mrs. Adams, was ill and they could not get anyone else to help. Mrs. Edwards always had a way to manage, because she thought things out and planned, and it did not cost her any more. So the operating expenses were $36 for electric light and gas for cooking, $40 counted toward rent for fuel, and there was $62.50 a year for service, for laundry work done at home or sent out, and $12 for repairs. During the two weeks' vacation at the seashore or mountains Mrs. Edwards planned to have as little laundry work done as possible. The family started with everything clean, and brought home the soiled clothing, as it could be done more cheaply at home.

It was fortunate that Mrs. Edwards had learned at

high school how to sew and to keep the clothing and household linen in good repair (Fig. 63). Grandmother Edwards "kept the whole family well mended," and also enjoyed making baby Dorothy's clothes. She also helped Mrs. Edwards with her own sewing. The Edwards learned that there are many things which one can buy ready-made, and most of John Edwards, Jr.'s, clothing was bought. Mrs. Edwards often found bargains by waiting to buy between seasons, and by buying sizes for John "to grow into." Often much clothing is wasted unless there are younger children to fall heir to it, because it is bought too small and soon outgrown. The amount spent for clothing for the four Edwards was $180 a year. Grandmother Edwards had sufficient income to buy her own clothing. This is how the money was divided:

4. Clothing expenses.

FIG. 63. — The cost of clothing affects division of income.

Mr. Edwards	$75
Mrs. Edwards	65
John Edwards, Jr.	25
Baby Dorothy	15

This meant careful planning. Of course there was always some clothing left over each year, and the Edwardses had a cousin who sent some clothing each season which her children had outgrown. The Ed-

wardses always used some of their gift money for this purpose.

The miscellaneous expenses were quite numerous. Mrs. Edwards tried to keep her family well, so that little money had to be spent for doctors' visits. All the family went twice each year to see the dentist and so prevented large bills, for the small cavities were taken care of in time. Mrs. Edwards knew, too, that many sicknesses come from poor teeth and that often much money is spent for doctors' bills which can be prevented if the teeth are well cared for. When Mr. Edwards injured his arm one year the doctor's bill was high, but as a rule it averaged $60 for the family for doctor and dentist both. For church and charity Mrs. Edwards put aside $50 or about $1 per week for the family. For Mr. Edwards' life insurance they spent about $1 per week, or $50 a year premium on a $1500 life insurance endowment policy. Do you know what is meant by a premium, and an endowment policy of life insurance? Your teacher will tell you about them.

5. Other expenses.

(a) Doctor and dentist.

(b) Church and charity.

(c) Life insurance.

For entertainment and pleasures $30 for the year was put aside. This Mrs. Edwards used for birthday party celebrations or when she had some friends in for the afternoon or for a dinner party. Mrs. Edwards believed in thinking about pleasure, too, in her planning. The refreshments or meals she served were always very simple, but she used

(d) Pleasure and entertainment.

so much thought and care in making all attractive that everybody enjoyed her parties very much and could not have had a better time if she had spent a great amount of money. It is the spirit of hospitality which counts, you see. Sometimes the Mothers' Club met at her home to sew. Then she served coffee and doughnuts or marguerites, or in warm weather iced tea or fruit punch instead of coffee. On birthdays Mrs. Edwards sometimes planned for a river trip and a picnic supper in the woods not far away. The last one was John, Jr.'s, and he invited two friends to go with him. Another time it was a party for Grandmother Edwards and two of her friends. Sometimes Mr. and Mrs. Edwards went for a cross country walk and all day outing and took their dinner along. Last year Mr. Edwards went to visit an old friend. So each year there was great fun planning how this money should be spent for the happiness of all. Each year there was a special time for some member of the family.

(*e*) Vacation trip.

For the summer vacation trip $50 was put aside; sometimes the family went camping in a little bungalow up in the hills which was rented for $15 for the two weeks; sometimes they boarded at the seashore. Mr. and Mrs. Edwards planned to use some of their gift money for this pleasure in addition to the $50 put aside, because it was then used for the pleasure and benefit of all the family.

Education will be provided by the city, for Mrs.

Edwards' children will attend the public school. The library, the free lectures and concerts, the athletic meets, and parents' meetings were also enjoyed by the Edwards family and furnished much education.

(f) Education.

The remainder of the family money was spent for newspapers, carfare, postage, and incidentals. This was about $30.

So you see Mrs. Edwards planned intelligently and thoughtfully, so that all the members of her family kept well and happy. Her plans may differ from the plans in your home, but if your plan includes all the essentials of the things which bring happiness into our lives then it is surely a good division of income, and one which should make your family happy.

Some of the Sunnyside girls decided to plan their budget. Many of them had spending money and were anxious to begin to learn how to spend wisely. This is a very good way, for one learns through doing, and later when boys and girls are earning they, too, will know how to spend their money to best advantage, for they will have the habit of thoughtful spending. Miss Ashley always kept her monthly and yearly accounts. She used forms like those below. Her items of expense differed slightly from Mrs. Edwards'; the column headings differ with each person's requirements.

IV. Some of the Sunnyside girls decide to keep expense accounts.

Constance Moore and some of the other Sunnyside girls decided to keep their expense accounts in a

small notebook which they had ruled, using these forms. What headings do you suppose they would have? Perhaps you, too, can begin now to keep an expense account. What are your headings of expenses? How do you spend your money? Here are the plans, which may help you in keeping your accounts. You will see that Constance Moore's expenses differed from Miss Ashley's.

I.

CONSTANCE MOORE'S MONTHLY ACCOUNT

ACCOUNTS 1919 JANUARY	CLOTHING, RIBBONS, COLLARS	CANDY	CHURCH	GIFTS	SUNDRIES	OTHER COLUMN HEADINGS TO BE ADDED
Jan. 1						
Jan. 7						
Jan. 8						
Jan. 15						
Dates of expenditures .						
Totals for Month . . .						

Constance did not have to purchase all of her clothing from her allowance but occasionally bought articles to supplement those which her mother purchased.

II.

CONSTANCE MOORE'S YEARLY ACCOUNT

1919	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	ETC.
Clothing, etc. .										
Candy . . .										
Church . . .										
Gifts										
Sundries . . .										
Totals for Year										

The important reason for keeping accounts is that one may know if one is getting the greatest good from the amount one has to spend and including all the things one needs for happiness. If not, the plan is poor unless there is an exceptionally good reason for so planning. A plan helps one also to know where to reduce some expenses and where to increase others.

SUGGESTIONS FOR REVIEW

1. Make a list of the items of expense for which money is spent in your family.

2. Tell mother about the division of income and how Mrs. John Edwards planned.

3. Plan a party for Mrs. Richards' birthday, December third. Send to the "Journal of Home Economics" for suggestions.

4. What is meant by true hospitality in the home?

5. Bring suggestions for family plans as worked out in your home for Food, Rent, Clothing, Operating Expenses, and Other Expenses. Tell how mother plans to keep down expenses.

Sewing for the Red Cross

PART II

CHAPTER I

The girls of the Ellen H. Richards School learn to prepare some of the household furnishings for the Sunnyside apartment and to work for the Red Cross.

Did you ever furnish a doll's house? Edna Earl said that she felt as if she had a regular playhouse with so many things to make for the Sunnyside apartment — curtains, dish towels, covers, pillow slips; napkins and tablecloths to hem; and so many interesting things to supply. Miss Ashley said that they would prepare these articles in the school laboratory and once a week go to the Sunnyside apartment for a sewing lesson when the necessary measuring and planning could be done. Some of the girls began to plan, too, for similar curtains and covers for their rooms at home. Miss Ashley gave credit for home work and said she would be glad to go to the homes of the girls to

I. The girls discuss the necessary furnishings to be made for the apartment.

inspect the work or to have it brought to school. Such a happy, busy lot of girls! Miss Ashley announced that the first project would be the hemming of the dish towels and the table napkins and cloth because those would be needed first; and the curtains and covers would be made later. The mothers of the girls at the Ellen H. Richards School had a Mothers' Club which Miss Ashley organized. They met twice a month for discussion of problems relating to the home. Sometimes the grandmothers came, too. They were all delighted because the girls were learning so many things about home making, and also making so many useful articles for the Red Cross as well as for themselves. They took the deepest interest, too, in the Sunnyside apartment and all that Miss Ashley planned to do. They heartily approved of the good plans of the Board of Education of Commonwealth City. They believed that girls and women should be taught at school how to become intelligent consumers of textile and food products and how to make their homes attractive, happy places in which to live.

1. The mothers delighted because of the useful work to be given at school.

Lesson 16

Two Ways of Turning Hems and Two Kinds of Hemming

Miss Ashley told the girls that hemming is a very useful stitch; one can use it on many articles besides those which the girls made in furnishing the apartment. Would you like to learn the stitch, too, so you may use it at school or when you have need at home if mother asks you to help

with either the household furnishings or clothing? You can use it also in helping at the Girls' Club with the Red Cross layettes.

Miss Ashley asked two of the girls to cut the towels in even lengths of 1 yard each, after measuring and creasing evenly by a thread. This was done before class, so all were ready for the hemming lesson. It was a review for many of the girls. Miss Ashley discussed with the girls why hemming of raw edges is necessary. In order to prevent raveling, the edge is protected with a turning called a hem. This hem is held temporarily with a basting stitch until the hemming stitches are put in, after which the basting is removed. Miss Ashley knew a very careless mother who never hemmed the family dish towels and gradually they raveled away. That was not the worst part either, for a big bill had to be paid to the plumber who came and removed yards of ravelings from the drain pipe. Foolish, was it not, when hemming the edges would have been so much easier and more economical, and would not have looked so untidy either? Look at the towels, or the cloth you are hemming; the warp threads, you will find, run lengthwise of the cloth. The very firm selvedge edge is made by the filling thread or woof, as it is sometimes called, as it passes around the warp threads when the cloth is being woven. It is this filling thread which ravels out so easily if the towel is

I. Making the dish towels.

1. Reasons for hemming.

(a) The warp runs lengthwise of towel.

(b) The selvedge formed by the filling thread.

not hemmed. Miss Ashley gave the girls the directions for turning the hems, basting them, and making the stitch. The pictures and the description will help you, too, to make hems well and neatly. This is how Miss Ashley taught the Sunnyside girls:

(c) The hem prevents raveling of filling thread.

(*a*) *Turn hems of desired width.* For the towels, one fourth inch will be right when finished. There are two turns, because one would ravel. Turn the material towards the worker. First, turn one eighth inch to the wrong side of the material. Next, turn one fourth inch. Turn and pinch to hold until basted.

2. How to turn the hem.

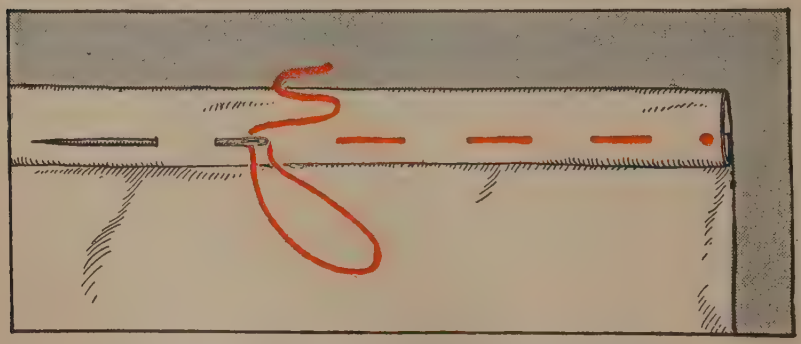

Fig. 64. — Notice how even the stitches are in basting.

(*b*) *Baste.* Use one fourth inch stitches. No. 8 needle is a good size for this work, and basting thread can be used for this temporary stitch. Be sure to wear the thimble on the middle finger of the right hand. Constance Moore's little

3. Basting hem with basting stitch.

sister Janet said that she never would learn to use a thimble, but she will if she keeps on trying. The picture (Fig. 64) shows the even basting stitch with the needle in position. Baste on the edge of the hem. Begin with a knot, and end with two tiny stitches placed one on top of the other to hold until hemmed. Remember that basting is a temporary stitch.

Hem the edge with the hemming stitch. Look at the pictures (Figs. 66, 67, 68) and then follow the directions carefully.

Hold the cloth slanting over the fingers of the left hand, with the thumb on top (Fig. 65). Begin without a knot. Put the needle up through the edge of the hem and allow one inch of the end of the thread to lie under the hem as you pull the thread through. This end will be worked over and held securely. Now you are ready for the stitch. Point the needle which is in your right hand towards the left shoulder. The point of the needle is passed first through the cloth under the edge of the hem, with a tiny stitch which shows on the right side. The needle at the same time catches the edge of the basted hem. This makes a tiny slanting stitch on the right side, so: /. The next stitch is taken about one sixteenth of an inch from the first, in exactly the same way. As the thread

FIG. 65. — The way to hold the cloth while hemming.

4. Making the hemming stitch.

carries from one stitch to the next, it makes a slanting line on the wrong, or hem, side but in the opposite direction from the stitch which shows on the right side. It slants like this: \. Together these two make this: 1/ 2\. The part marked 1 shows on the right side of the cloth; and 2 on the wrong, where the hem is turned. When the end of the hem is reached, fasten with two or three tiny stitches. If the thread breaks, ravel out a few stitches and let the old end of thread lie under the hem. The new thread can then be started as at the beginning by putting the needle in the hole of the last stitch. There will be two ends under the hem to work over. The picture (Fig. 68) shows how to join a new thread. Find out in how many places the hemming stitch can be used. Try it at home before next lesson. What Red Cross garments require hemming in either the baby layettes or children's garments?

5. Uses for hemming.

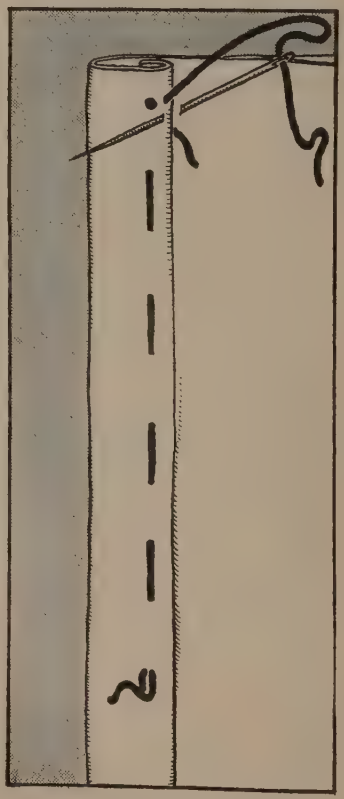

Fig. 66. — How to start the hemming stitch.

Miss Ashley also told the girls about another way of hemming. It is called French hemming. The girls really knew the stitch, for they had learned it in the fourth grade when they made the bean bags for the school fair. It is called overhanding. The principal difference is in the turning of the hems. This is how Miss Ashley said they should do it.

II. Hemming the napkins and tablecloth.

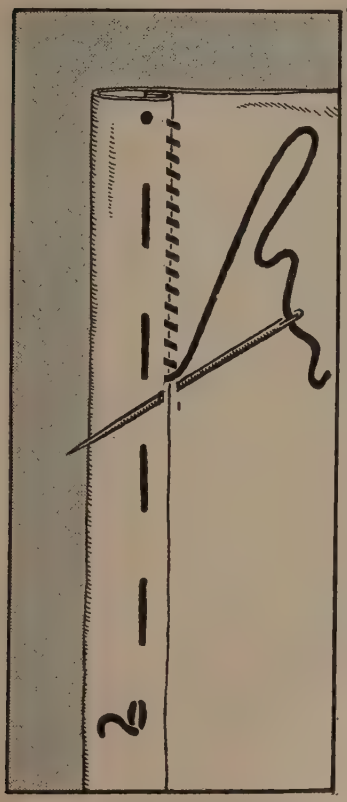

Fig. 67. — The hemming stitch.

Turning hems. The hem is to be very narrow, less than $\frac{1}{4}$ inch and as near to $\frac{1}{8}$ inch as it can be made. There are two turnings, the first a little narrower than the second. So far the method of turning the hem is the same as for the dish towels. The hem is pinched carefully until it is flat and even. The next step in napery hemming is to turn the hem back on itself towards the right side of the cloth or napkin. It is not basted but pinched in tiny plaits. This is a French hem, and the edges are turned evenly and overhanded.

1. Turning the hems evenly.

The stitch. The stitch is taken through the edges just where the hem is turned back and creased at the edge of itself. The stitch really falls in the same place that the hemming stitch does on the dish towel, but it is called overhanding. The edges of the napkin are held in the left hand between the thumb and first finger. The needle in the right hand is pointed straight through towards the worker as in the picture (Fig. 69), and the needle is passed through the edges. The end of the thread is drawn carefully, and one half of an inch allowed to lie on the edge. This is worked over. The needle is pointed with each stitch towards the worker, and the stitches are placed less than one eighth of an inch apart. Be very careful to catch all the edges, but do not make your stitches too deep. The overhanding stitch is a strong stitch and is easy to make. It is finished

2. The overhanding stitch.

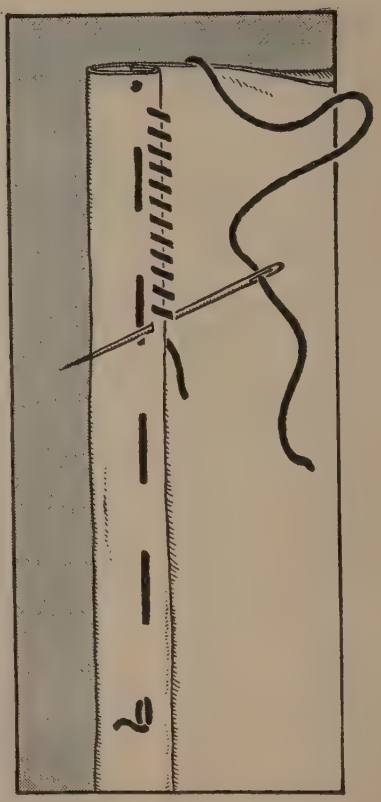

FIG. 68. — Starting a new thread in hemming.

by working backwards from left to right on the edge with three or four of the same stitches, or, if one wishes, by overhanding to close the end edges of the hem of the napkin.

Can you tell why this strong overhanding stitch is useful also for napery hemming? The girls used rather fine thread, No. 80, and No. 9 needles, so that it was

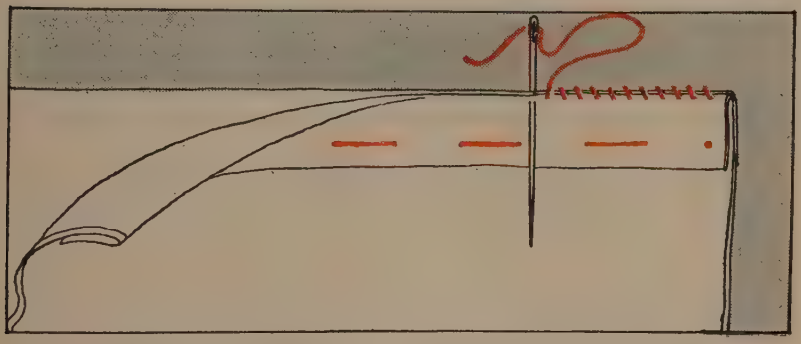

Fig. 69. — The overhanding stitch catches the two edges securely.

not exactly for strength that this stitch was chosen. They knew that it was because the stitch is taken straight through the edges and so falls in with the warp threads on the right side of the napkin and shows very little, as it sinks into the cloth with the laundering.

The girls enjoyed this stitch and thought it was easy. Some of the girls worked on the towels and others hemmed the napkins. Four girls worked on the tablecloth. Miss Ashley had two sit on each side of a laboratory table side by side. Two of the girls started in the middle to overhand, and two at the ends.

Suggestions for Review

1. Suggest ways in which the hemming and overhanding stitches may be used on the Red Cross garments, for either the baby layette or garments for children.

2. Tell the difference between the plain hem and the napery hem.

3. Make a picture of the hemming stitch without looking at the book. Show needle in position for the stitch.

Lesson 17

Some Cotton Materials for Towels and Other Purposes

Miss Ashley plans to have the girls buy their own materials for the work bags and other articles which they will make later. This is what the girls at the Ellen H. Richards School learned about cotton materials. If you are to learn to be a good purchaser of textile materials, you will wish to know this, too.

I. The girls study cotton materials.

Miss Ashley had asked three of the department stores of Commonwealth City to send her samples of materials suitable for kitchen toweling. This was difficult, as materials of this kind are very scarce because of after-war conditions. Linen is difficult to get and cotton much more expensive than formerly. There is such a variety,—some are smooth and feel cold and look shiny; others feel soft and have a fuzzy surface. Some are crossed with lines of color, and marked glass toweling — they are shiny, too. Then there are the dark brown ones. These, you have learned, are called Russian crash. Do you know why there is such

1. Materials for kitchen towels.

a difference in appearance? Your teacher will have samples for you to study also. It is because some are woven from linen fibers made from the flax plant. Those are the shiny ones. The soft, fuzzy surface is the cotton material which is made from the cotton plant. The striped ones are woven so in pattern and some of the threads were dyed in color. The girls were to use the striped or checked dish toweling for their work bags or envelopes.

(a) Difference between linen and cotton.

(1) Surface.

Then there are other differences. Some samples are narrower than others. Some are 15 inches, while others are 18 inches wide; some have red or blue threads woven in at the edges and others are plain. The Russian crashes are plain and unbleached or brown in color. There is a decided difference in cost, too. Why does linen cost more than cotton? We shall study about this some day.

(2) Width.

(3) Cost and color.

Cotton towels do not absorb the water as easily as the linen towels. We call this a difference in the properties of the two materials. Linen fibers draw in moisture quickly and the linen materials dry very easily. Cotton fibers have a kind of waxy coating which throws off the water and they do not absorb so readily.

(4) Absorbing qualities.

The prices were given on the samples which Miss Ashley had. The towels for the Sunnyside Apartments were made 1 yard long. Miss Ashley said that if the

girls wished they might hem some for the Red Cross fair at school in December. Constance Moore was organizing a club which would have charge of the sale, and the girls expected to sew one afternoon each week for it.

Miss Ashley asked the boys in the industrial arts classes to print some cards for the textiles. They were to be printed like this :

Name of material
Price, — retail
Width
Use
Weave
Place for sample

11. Miss Ashley plans for caring for the textile samples.

Miss Ashley also asked them to make wooden boxes with covers to hold the cards. It was her plan to have the girls help her catalogue the samples, and to keep

Fig. 75. — The laboratory scrap bags.

them in order in the boxes — silk, wool, linen, and cotton samples in separate boxes. There were also four scrap bags in the laboratory which were marked cotton, wool,

silk, and linen (Fig. 70). All the girls were asked to bring samples from home or any they could from the shops. Miss Ashley asked the stores to furnish some too, when this was possible. Some of the pieces for mounting she might have to buy from the school fund.

The girls also studied some of the other cotton samples. Miss Ashley appointed a committee of three to see that those studies were mounted on their cards as soon as possible with the necessary information.

The varieties of cotton which look like flannel were studied next. There were several fuzzy ones. They are called Canton flannel and some are called outing flannel and flannelette. Canton flannel is heavier and different in appearance from outing flannel. It has one twilled surface and one fuzzy one. It costs 40 cents a yard and comes about 30 inches in width. The outing flannels are fuzzy on both sides and can be bought for from 25 to 50 cents a yard. They are about 36 inches wide. Flannelette is something like outing flannel. It is fuzzy and soft. It is sometimes printed on one surface and sometimes plain. It is usually only 27 inches wide and is cheap, from 25 cents to 50 cents per yard. Compare these three cotton flannels as they are called. Flannel is a name used for wool material, too. Wool is useful in quenching fire; cotton burns easily, especially when it has a soft, fuzzy surface. Outing flannels are dangerous for little children to wear unless treated with ammonium phosphate.

1. The girls study other cotton materials.

(*a*) Canton flannel, outing flannel, flannelette.

This can be easily done and prevents much trouble. Dissolve one pound of ammonium phosphate, which costs about 25 cents, in one gallon of cold water. Soak the clothing in this solution for five minutes.

Miss Ashley said that before long the girls would make housewifery aprons, and she wished them to study the materials suitable for such a purpose. Let us, too, look at some of the samples Grandmother Edwards heard about the study of cotton materials which the girls were having and sent over some from her piece bag. Perhaps some of the grandmothers in your neighborhood will also help your teacher in this way. Miss Ashley had many samples for the girls to see. There were a number suitable for aprons and caps. The blue and white, and pink and white stripes and checks are ginghams; the white pieces with little spots and thin stripes are percales. The plain blues and pinks are chambray; the plain blues and pinks of cheaper grade are ginghams. Those with printed designs on one side are calicos. The dark brown and blue samples are heavier and are called denims. Suppose we mount all of these cotton materials in the same way as the toweling. These cards can be kept at school for reference. Everybody must help. See if it is possible to write under each sample the necessary information.

(*b*) **Gingham, chambray, calico are pretty and useful.**

The girls found that in their scrap bag marked cotton there were many other samples quite different from those already studied. There are many common cotton

materials. Miss Ashley told the girls the names and uses of the most common ones. Isn't it interesting to think that materials have names, too, and that one can learn to distinguish them? Do you think you can learn all of these? They are the most useful ones to know.

(c) Some more useful cotton materials every girl should know.

Cheesecloth. Thin, sheer, plain weave. Costs from 15 to 50 cents per yard, and comes 1 yard wide. It is used for wrapping butter or cheese, for curtains, and for many other purposes. It may be used for baby, too, because it is so soft. The unbleached cheesecloth costs a little less than the bleached.

Crinoline. Somewhat like cheesecloth in appearance, but stiffer in texture. It is used by dressmakers for stiffening parts of garments. It comes from about 19 to 36 inches wide and costs about 20 cents.

Scrim. An open mesh weave, but heavier than cheesecloth. It is used for curtains and household furnishings, and comes bleached or unbleached. What is the difference in color? It costs from 25 cents to $1 per yard. It comes from 36–45 inches in width.

Cretonne and Chintz. Printed materials with flowers or designs on one side, sometimes on both. They cost from 25 cents to $1.50 per yard and are used for curtains, covers, cushion tops, etc. They vary in width from 25 to 36 inches.

Denim. Strong material and has an uneven twilled weave. It is used for furniture covers, for aprons, and

for floor covering. It costs from 40 to 60 cents per yard, and comes about 1 yard in width. Your big brother or father may wear overalls of this material; perhaps some of the boys in school, too.

Gingham. A material used for aprons or dresses, shirts, etc. It is from 24 to 30 inches wide and costs from 30 cents to $1.50 per yard. Fine ginghams are very beautiful. Sometimes they are plain in color or striped or in plaids.

Percale. A good piece can be bought for 35 cents per yard, 36 inches wide. It comes plain or printed, and is firm and closely woven. It is good for aprons or summer dresses.

Ticking. A material used for pillows or mattress covers. It is striped, has a twilled weave, and wears very well. It costs from 40 cents up to $1 per yard, and is woven 36 inches wide.

Do you understand what is meant when we read that cloth is woven a yard wide? Some day we shall study how weaving of cloth is done and where it comes from. Edith Potter, who lived a little out of town, had a grandmother who knew all about weaving and spinning and such things and the way they were done when she was a little girl. Edith invited the girls to come out to her house some day and then Grandmother would tell them about it. Do you know where the cotton for all these materials comes from? We shall study soon about this.

Suggestions for Review

1. Select ten samples of cotton materials from your piece bag and see how quickly you can label each with its name.
2. Why is linen preferable for dish towels?
3. Name some cotton materials suitable for a new apron for grandmother — what cotton material would you choose for baby John's rompers? Why?

Lesson 18

The girls make some more of the furnishings

The girls visit the apartment and measure for covers for bureaus and tables, and for curtains and overhangings. You, too, will wish to learn the stitches used in making these so you can use them on similar furnishings or on the Red Cross garments.

I. The girls measure and make some of the furnishings.

Miss Ashley suggested that the girls cut patterns for the covers for tables and bureau tops. They were cut exactly the size of the top to be covered. Then Miss Ashley told the girls to pin their patterns on the chintz which was used for some, and to allow $\frac{1}{4}$ of an inch extra all around for a turning. This is how they made the covers and other simple furnishings which add very much to the attractiveness of any home.

1. The bureau and table covers.

The raw edges were turned once only to the right side and run with a running stitch, which is like the basting stitch you learned, only much smaller. These tiny stitches make this edge lie flat. Over it the girls placed the tiny gimp edge which costs 2 cents a yard and pinned it in place rather loosely

to allow for shrinking. This, too, was sewed on both edges of the gimp with a running stitch, and so made a very neat finish on both sides, as the raw edges were covered.

2. The chintz overcurtains.

The chintz overcurtains were made in very much the same way. The girls measured from the rod to the sill and added $\frac{1}{4}$ inch for turning at bottom edge, and $1\frac{1}{2}$ inches for the top turning or casing. One half width of chintz was used at each side of a window, so one length, plus the additions, was cut in half for each window (Fig. 35). The selvedge was left and placed at the outside of the window frame, and the raw edges at bottom and inside edges of the curtain turned and covered with the gimp edging. The top had a turning of first $\frac{1}{4}$ inch and then 1 inch. This was basted and hemmed securely to form the casing. The curtain rods used were of brass $\frac{1}{4}$ inch in diameter.

The overcurtains used in Miss Roberts' bedroom, and also Miss Ashley's, were of crêpe toweling (Fig. 36). This was finished with a hem of $1\frac{1}{2}$ inches at the bottom and a casing of 1 inch at the top. The selvedges were left at the sides. Can you calculate how much toweling was necessary if the window measured 60 inches from rod to sill?

3. The cheesecloth curtains.

The cheesecloth curtains were made in a slightly different way. The girls measured from rod to sill for length and added $1\frac{1}{2}$ inches at the bottom for a hem and $1\frac{1}{2}$ inches at the top for a heading, or all together 3 inches more than the length, for the hems,

finish, and shrinkage. Two widths of cheesecloth were used at each window (see Fig. 35). At the inside edges of the curtains the girls removed the selvedges and trimmed evenly and carefully. At the bottom and sides they turned hems one inch finished, or the first turning $\frac{1}{4}$ inch and the second one inch. These hems were run with the tiny running stitch instead of hemming. At the very edge of the curtains at the bottom and inside edges the tiny gimp was held in place loosely and run on so the edge of the gimp extended beyond the edge of the cheesecloth. At the top of each curtain the girls turned first a $\frac{1}{4}$ inch and then a one inch turning to make the casing.

Some of the bureau covers and table covers were made of Japanese crêpe toweling, and this was measured the length desired to hang on each side and then an allowance made of $1\frac{1}{4}$ inches, and on some $2\frac{1}{4}$ inches, for hems and turnings. The first turn was $\frac{1}{4}$ of an inch and the second one or two inches for the hem as desired.

4. Bureau scarfs of toweling.

The pillow covers were easily made of a strip of the chintz or "linon" materials. The pieces were cut $1\frac{1}{4}$ yards long and 13 inches wide so that $1\frac{1}{4}$ yards of chintz 27 inches wide made two; or if wider the outside pieces left were used for bureau or chiffonier covers. The girls turned a hem of $1\frac{1}{2}$ inches on one end and 1 inch on the other, turning both to the wrong side, basting, and hemming neatly. Then they folded the strip with the right sides in so that the narrow hem

5. Pillow covers.

lay on the wider hem, and overlapped it $\frac{1}{2}$ inch. They pinned this carefully. This overlapping was about 4 inches from one end of the pillow cover. After folding, lapping, and pinning they basted a seam at each edge to hold the two thicknesses and the lapped folds. This basting was $\frac{1}{4}$ inch from the edge. They sewed these seams with the stitching stitch, as it is very strong. Who knows why it is called the stitching stitch? Grandmother Edwards still made all of her son's shirts by hand as she once had made her husband's. She loved to do it, although her daughter said that shirts could be bought more cheaply ready-made. They did not last so long, as a rule, as Grandmother's, for she used very much better material. Grandmother said that she could remember when there were no sewing machines and all the stitching was done by hand, and she stitched the shirts with the stitching stitch. It resembles machine stitching.

Look at the picture (Fig. 71), follow the directions carefully, and you will be able to make this stitch on your pillow cover or other articles. It is a seam stitch, you know. It is started with two or three tiny stitches one over the other for strength. The row of stitches you are to make should be in a straight line just below the straight row of basting stitches. Hold the cloth in the same way as for hemming, with the material over the fingers and the thumb on top. Now you are ready to make the new stitch. The stitch is started at the right-hand end of

(*a*) Stitching stitch.

the seam of the pillow. Make a stitch back over the two starting stitches and carry the needle forward twice the length of this starting stitch. You will have a tiny space on the side towards you, between the place where the needle comes up and the end of the starting stitch. Each time your thread should fill this space for your needle should go into the end of the last stitch and twice the length forward as it comes up. See the

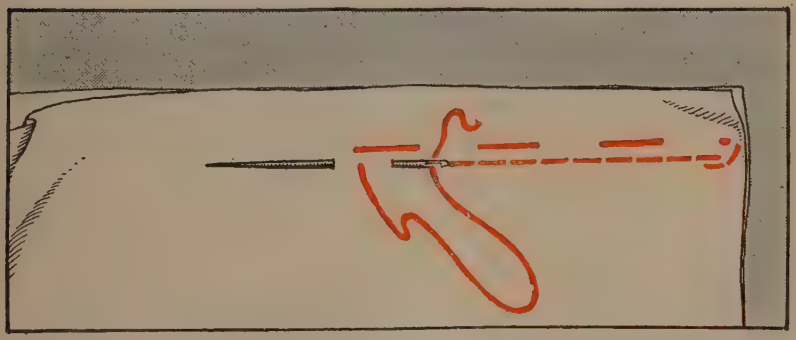

FIG. 71. — The stitching stitch looks like machine stitching if well done.

needle in the picture (Fig. 71). Notice the space. Look at your work. What is the appearance of the stitch on the wrong side? on the right side? This stitch is also called the backstitch. Why? At least six of the girls made pillow slips while others were busy with the curtains and covers and some sewed on Red Cross garments. These covers were for the couch in Miss Roberts' bedroom and some of them for the living room. The slips were to be used during the day to cover the bed pillows. The girls who did not make a

pillow slip at school planned to make them for the sale to learn how. Miss Ashley gave credit for this at school.

Snaps were used to close the pillows, three on each, and were sewed to the turned hems so that the stitches did not show on the outside.

The bag shown in the picture (Fig. 72) was made for the back of the kitchen door and had two pockets, one for pieces of cord and one for paper. Miss Ashley believed in having a place for everything. The picture will show you how it looked. It was made of two pieces of chintz which were left from the other articles. One piece was 18×20 inches and the other, used for the pocket, was 14×20. The pocket piece was turned at the 20-inch edge for a one inch hem. Edith Potter basted and hemmed this. Then the piece was $12\frac{3}{4}\times 20$. She placed the 20-inch unhemmed edge at the bottom of the large piece 18×20, on the 20-inch edge, and basted it in place.

6. Paper and cord bag.

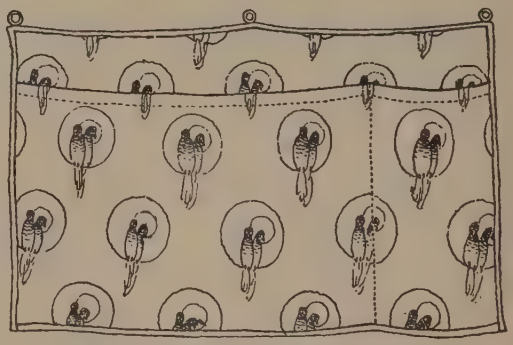

FIG. 72. — The paper and cord bag.

Then she bound the edges with a piece of blue cotton tape which harmonized with the chintz and sewed the

three brass rings at the top with the overhanding stitch. This is how she bound the edges all around. She started the tape at a corner and basted it with the right of the tape to the right side of the chintz on the pocket side. She was very careful to allow extra fullness at the corners and to baste with rather small stitches the $\frac{1}{4}$-inch seam. Then she sewed the tape with a running and backstitch and was very careful when she came to the pocket to

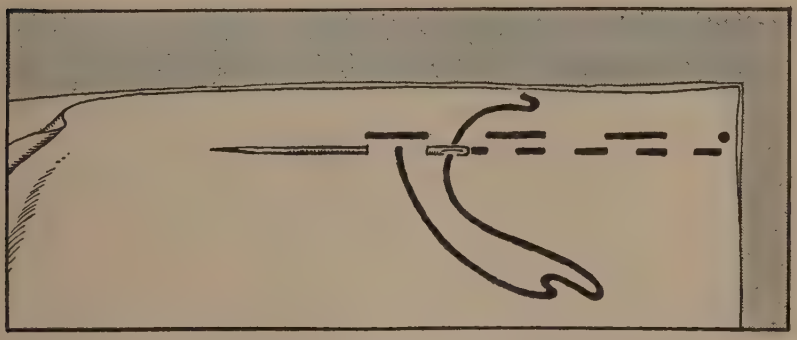

Fig. 73. — Running and backstitch is a good seam stitch.

catch both thicknesses of chintz. This is how she made the running and backstitch (Fig. 73). It can be made with two or three or four runs and then a backstitch. Edith used two runs and a backstitch. This is a seam stitch and is very useful for many articles. The girls used it for aprons and bags and petticoats, too. It is a quick stitch and is strong. Look at the picture; it will help you to make it correctly. Hold the material in the left hand over the fingers, with the thumb on top. You will sew from right to left.

(a) **The running and backstitch.**

Start with two or three tiny stitches, one over the other, and without a knot. Pull the needle through after the starting stitches. Now take two or three tiny running stitches; they are like basting only much smaller. As you make the running stitches, the last one is to be twice the length of the others as the needle is pulled through. This is because the next stitch is to be backwards — a backstitch to cover *half* the space. On the side towards you, your row of stitches should look like running stitches; on the wrong side it will be different because of the backstitch. You should have the stitches in a straight row under the line of basting. The backstitch, which covers half the space left by the running, is twice the length of the running stitch on the wrong side. This will bring the needle up ahead of the stitch and ready for the next group of running stitches. Finish with three tiny stitches, one over another. Remove the bastings. After the tape is sewed securely, turn the unsewed edge of the tape to the wrong side and hem to the seam. Be careful to see that the stitches are taken into the seam and the tape so they will not show, rather than below the seam into the chintz. The girls found the deep pockets in this bag most convenient. Miss Ashley always kept some soft tissue paper, from oranges or wrappings, and used it for cleaning the grease from the pans before washing them.

The girls also made iron holders of some old pieces of wool cloth. They basted together several thicknesses 6 in. $\times$ 6 in. from corner to corner and bound

with the tape in the same way as the bag. Sometimes bias strips of cloth are used for binding an edge instead of a tape (Fig. 74). Some day we shall learn how to cut a true bias strip. Some of the girls used the blanket stitch at the raw edges of the holders to hold them together and to prevent the edges from raveling. They used a heavy mercerized thread

7. Iron holders.

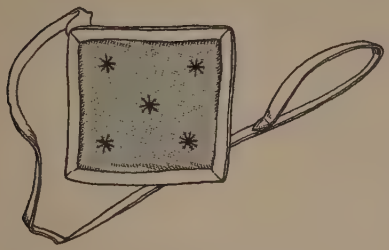

FIG. 74. — Some girls bound their holders with tape.

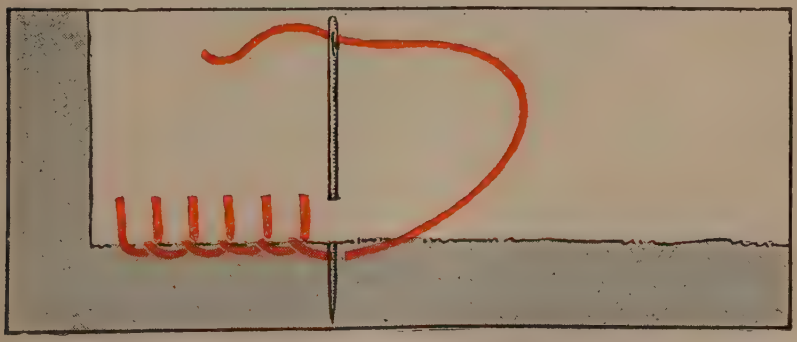

FIG. 75. — The blanket stitch prevents raw edges from raveling and is also a decoration.

for this finish. This stitch is used generally for blanket edges which are not hemmed. It is a stitch to prevent material from fraying, and is taken on the edge of the material. The stitch is worked from left to right (Fig. 75). The edge of the cloth is

(*a*) The blanket stitch.

held towards the worker. Start with a few running stitches and bring the needle up near the edge. Have the thread under the thumb. Insert the needle to any depth desired and point it at right angles to the edge of the cloth, towards the worker. The needle should come up under the edge and through the loop made by the thread. The thread will be carried along the edge as the stitches are made. In finishing a thread, take small stitches on the wrong side. In starting a new thread, bring it up through the last loop at the edge.

On some materials the stitches can be $\frac{1}{4}$ or $\frac{1}{2}$ of an inch apart, or taken very close together as they are when we work on white linen and scallop the edges.

Suggestions for Review

1. Suggest five articles which might be useful for the girls of your school to make. Ask your teacher to help you select those on which the hemming, stitching, and backstitching can be used.
2. How can you use the blanket stitch on the Red Cross baby layettes?
3. Bring to school some articles on which the blanket stitch has been used for scalloping or for other purposes.

Lesson 19

The Story of the Cotton Plant

Have you heard the story of our cotton plant and where it grows in this country of ours? The Sunnyside girls were using cotton cloth and were anxious to learn all about it and how it is made. You will wish to learn, too.

Miss Ashley told the girls that cotton is the cheapest and the most important textile fiber, and that more clothing is made from it than from any other fiber. Do you understand the meaning of the word textile? If not, see if you can find out. Cotton grows very well in some parts of the United States. Perhaps you know where. Do you know that our country produces three fourths of the cotton of the world? Texas produces more cotton than any other state. Perhaps some of you

I. The story of cotton.

1. Where does cotton grow?

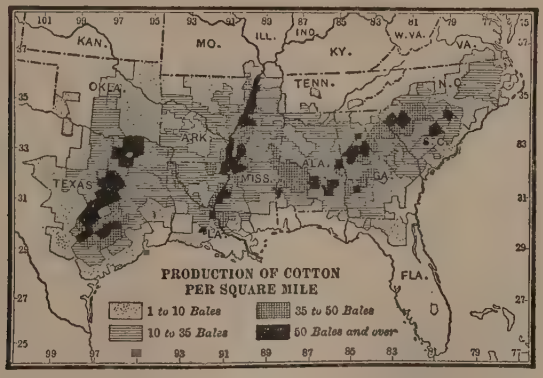

FIG. 76. — Map showing the cotton-producing states.

have lived or are living in the Southern States (Fig. 76). Can you name them without looking at your geography? Why is it that cotton grows so much better there than in the Northern States? Can you tell what other countries of the world grow cotton? How do you think it happened that the United States started to

2. How did it happen that the United States started to grow so much cotton?

grow so much cotton? As we study about it see if you can answer these questions.

In the picture you will see a field of cotton, and the men, women, and children are busy picking it and putting it into bags (Fig. 77). See the round balls or cotton bolls as they are called. They are brown and dry-looking around the edges, but the cotton is white

FIG. 77. — Have you ever seen a field of cotton growing? This one is ready for harvesting.

and clean. Shall we learn the source of all this lovely white cotton?

3. How cotton grows.

Cotton is a vegetable fiber and must be planted. Have you ever seen corn planted? The farmer plants the cotton seeds in rows like corn. The seeds are black and smooth, and some kinds of cotton seeds are fuzzy and soft and a gray or green in color. This difference in color is because there are

several varieties of cotton. Some of the cotton plants grow to be five feet tall, and others grow ten feet in height; some have yellow blossoms and others brown and purple red. There are over one hundred different varieties of cotton. The girls of the sixth grade at the Ellen H. Richards School sent to the United States Department of Agriculture at Washington for some cotton seeds and planted them in the school garden.

Cotton is planted about April or May. The planter in the Southern States begins about the month of February to prepare the fields for the seed. By the middle of August the plants are five or six feet in height and are covered with fuzzy little white balls, which are soft and dry. The cotton fields, or plantations, as they are called, look like fairyland. The flowers of the plant have vanished, but the part of the flower which contained the seed has grown into this brown house which contains the soft, fuzzy cotton as well as the seeds. When the brown house, or boll, is ready or ripe, it bursts and the cotton comes out (Fig. 78). There are about thirty or forty seeds in each boll, and the cotton fibers are attached to the seeds. It is this fiber which we use for clothing, thread, and many other useful purposes. Isn't it wonderful to think that it comes from a tiny seed and grows in this way?

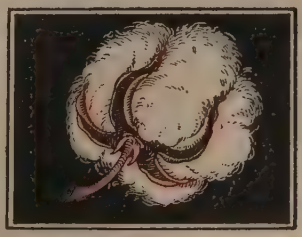

Fig. 78. — The brown house has burst. Notice the fluffy white cotton.

The difficult part of producing cotton is to separate the seeds from the fibers. This is done by a machine called a cotton gin. Long ago in India and other countries cotton ginning was done by hand (Fig. 79). It was done by hand in America, too. This was a long and very tedious process, for only one pound could be separated by a person in a day. Do you think people grew much cotton when it took so long to do the ginning? While George Washington was President of the United States, a ginning machine was invented by Eli Whitney for separating the cotton fibers and seeds. This saw gin, as it was called, was a wonderful invention, for it saved much time.

4. Separating the seeds from the cotton fiber is called ginning.

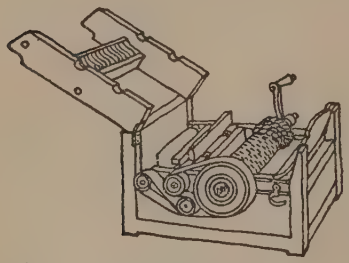

FIG. 79. — An early cotton gin, worked by hand.

After the pickers have gathered the cotton and filled their bags, they empty the bolls into the wagons which carry them to the gin houses to be separated. Here the "brown pod" or home of the cotton is blown away and the seeds are separated from the fiber. To-day all cotton is ginned by machine and great quantities are separated in a day. The machine handles the cotton in such a way that the seeds are all separated and used for certain purposes, and the fiber is pulled away from the seeds and used for other purposes.

If you have a microscope at your school you can examine one of the cotton fibers (Fig. 80). You will see that it is twisted and has the effect of being ribbon or bandlike in appearance. This natural twist of the cotton fiber helps very much when it is manufactured into yarn. The length of this wonderful little fiber varies. Sometimes it is 2 inches long and often only $\frac{1}{2}$ inch. The variety of cotton called Sea Island cotton has the long fiber. It grows near the sea or coast and needs the sea air. The shorter cotton fiber grows on the uplands away from the sea. It is called Upland cotton. These are the two principal kinds grown in our country.

5. The cotton fibers.

FIG. 80. — Notice the natural twist in this magnified cotton fiber. This helps in spinning.

Do you know what becomes of the cotton seeds? Some are kept for planting next year, and others are pressed and used for many purposes. The outside of the cotton seed, or hull, is used for fertilizer. A very good oil comes from the kernels of the cotton seeds when pressed (Fig. 81). This is refined and used for many purposes, as soaps, cooking fats, salad oils, candles, etc. The dry cake of the seed kernels which is left is used for feeding cattle. So you see every scrap of the plant is valuable, and

6. The cotton seeds are useful.

to-day we are told that even the old stalks of the plant need not be burned, but can be made into paper. How very poor we should be without our useful cotton fiber, for all the other fibers cost much more!

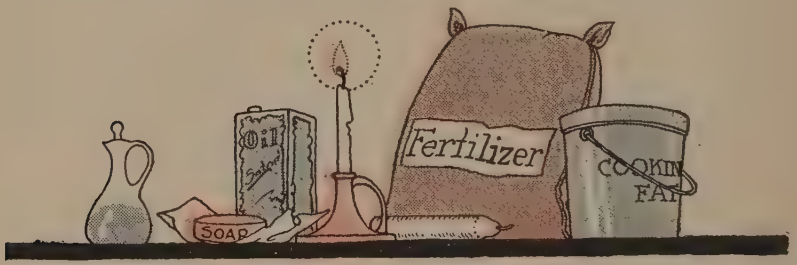

FIG. 81. — The use of cotton by-products. How valuable are they? How obtained?

Do you know what the Southern workers do with the cotton fiber after the seeds have been removed? Yes, they plan to send it all over the world — north, east, west, some in this country and much to Europe, where the cotton mills use it and transform it into many things for the use of people: clothing, thread, lace, gloves, hosiery. In order to keep the cotton clean and to transport it safely by boat and train, it is pressed into bales somewhat as hay is and transported to our cities (Fig. 82). Perhaps in your city you can find some bales of cotton arriving from the South to be used in making cloth or other useful products. The American cotton bale weighs about 500 pounds (Fig. 83). It is covered with coarse cloth called burlap to

7. Cotton is then baled and shipped to the cotton mills all over the world.

FIG. 82. — What do you know about cotton shipping? What ports of the United States ship cotton?

keep it clean, and is bound with iron bands. Did you ever see one? It would fill a space in your classroom 58″×30″×22″. See if you can measure off such a space. Perhaps you live in the South and can go to the docks or piers where cotton is being shipped, or to the railroads. It is sent to Liverpool, Bremen, Genoa, Havre, and many other places. In order that the bales shall occupy as little space as possible, the steamboat companies have a compressor which reduces the bales to about 10 inches in thickness. The bands are removed and the cotton is com-

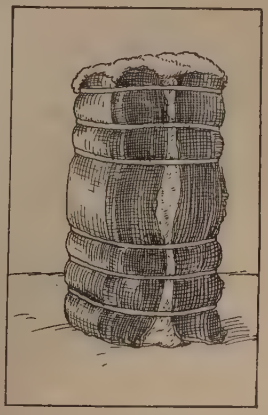

FIG. 83. — The American cotton bale.

pressed. Large exporting companies take charge of shipping the cotton. The United States imports some cotton. What is the difference between import and export? The cotton which we import from Egypt is used for thread, hosiery, and cotton gloves (Fig. 84). It is a very long-fibered cotton. Can you tell its name? Are you not curious, as the Ellen H. Richards School girls were, to study about what the manufacturer does at the mills when he receives the bales of cotton and makes them into cloth?

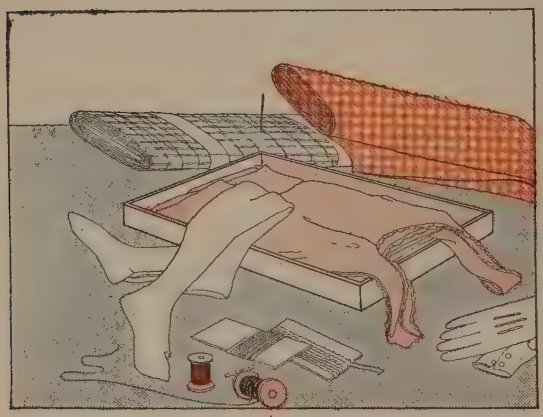

Fig. 84. — Do you know other things for which cotton is used besides those shown in the picture?

Suggestions for Review

1. Write a story about cotton, to be given to the Girls' Camp Fire Group, telling about its growth and how it is ginned.

2. Draw pictures of the boll, and also of the fiber as it appears under the microscope.

3. Can you answer the questions asked in the early part of this lesson? How did it happen that the United States started to grow so much cotton?

Lesson 20

A WORKBAG IS MADE

Miss Ashley thinks that as the girls have nearly finished the household articles they will soon need workbags or envelopes for their individual work. Will you make such a bag to hold your sewing?

Miss Ashley said that the bags were to be made quickly as a test in overhanding. Look at the bag; see how very simple it is (Fig. 85). It is made from $\frac{3}{4}$ of a yard of glass toweling. Why do you suppose Miss Ashley chose this material?

I. Method of making bag.

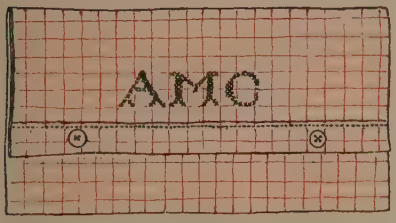

Fig. 85. — The envelope workbag made of toweling.

It is folded to form a kind of envelope bag. This is how it is made:

(*a*) Turn hem on one end, to make a $\frac{1}{2}$ inch hem when finished.

1. Hemming ends.

(*b*) Turn hem on other end to same side as first hem, to make a 2-inch hem when finished.

(*c*) Fold the long piece to form a pocket 9 inches deep with a lap of 6 inches.

(*d*) Overhand quickly the selvedge edges on the inside to form an overhanded seam.

2. Sewing seams with overhanding stitch.

Miss Ashley said that so far the bag was a review test for basting, hemming, and overhanding. The overhanding is the same stitch as was used on the napkins, but is used on the bags as a seam

stitch and must be very strong. Do not take it too deeply or an ugly ridge will be formed.

The new part of the problem was to learn to make the buttonholes. Miss Ashley was anxious to have the girls practice carefully, for buttonholes would be used on many garments which the girls would make later, and she thought this was a good opportunity to learn. Have you ever made a buttonhole? Miss Ashley said that two were to be made in the bag to close it neatly. The girls practiced first on pieces of cloth of two thicknesses basted together. These are the steps to consider in practicing.

3. Buttonholes for closing the bag.

(*a*) Decide about placing the buttonhole. Is it to be in a vertical or horizontal position on the article or garment? How far from the edge?

(*b*) Cut.

(*c*) Overcast the cut edges. Decide how deeply and how far apart to take the stitches. Consider the correct position to hold the work.

(*d*) Make buttonhole stitch along one edge.

(*e*) Turn the corner.

(*f*) Turn article and buttonhole opposite edge.

(*g*) Finish second end.

It is important to place the buttonhole correctly. In some garments where there is no strain, as in the front of a shirtwaist or of a loose corset cover, the buttonholes can be made to run up and down. On the bag the best way will be in vertical position to the edge of the lap. One should decide how

(1) Placing the buttonhole.

far from the edge and exactly where the buttonhole is needed. Mark the place with pin holes. For the bag place two buttonholes in the lap. Divide the space in thirds to locate the two.

One should cut truly and exactly, on a thread. If a buttonhole scissors is not available, fold the material halfway between the pin pricks which marked its location, so that the pin passes through both ends of the located buttonhole. Cut from the folded edge to the pin, by placing the fold well within the opened scissors and cutting evenly (Fig. 86). For the bag cut one half inch buttonholes, one half of an inch in from the edge.

(2) Cutting the buttonhole.

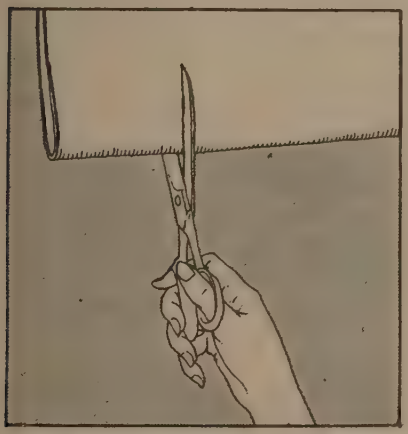

Fig. 86. — Cutting the buttonhole without buttonhole scissors.

You have not all learned the overcasting stitch. Practice it on a scrap of cloth. Look at the picture (Fig. 87) carefully. The overcasting stitch is used on edges to prevent raveling. Hold the buttonhole along the top of the first finger. Begin without a knot, and at the end farthest away from a finished edge as at the end of skirt bands or edge of waist. Work over the end of the thread. Point the needle

(3) Overcasting the buttonhole.

toward the left shoulder to make a slanting stitch. Make about three or four stitches on each side of the

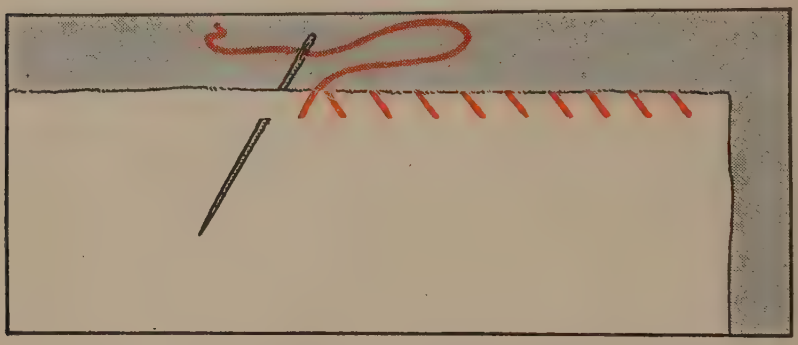

Fig. 87. — The overcasting stitch prevents raw edges from raveling.

buttonhole (Fig. 88). The depth should be about one eighth of an inch. The corner stitches should be taken

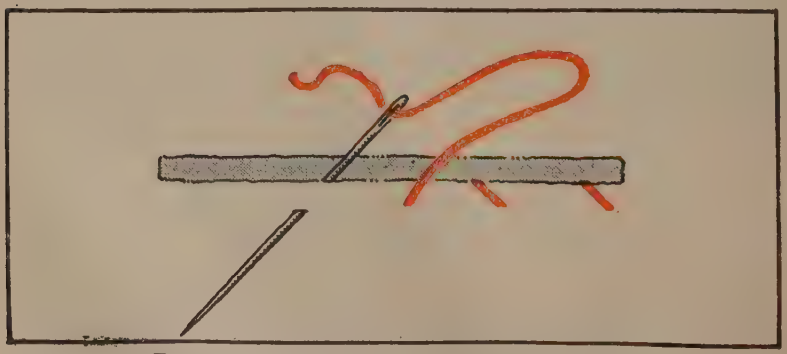

Fig. 88. — Overcasting the edge of the buttonhole.

so that the needle is pointed at right angles to the cut before the buttonhole is turned. Do not forget that after one side is overcast it is necessary to turn the

buttonhole around so that the other cut edge may be overcast.

When the buttonhole has been overcast, the needle should be in position at the beginning of the buttonhole where the overcasting was started. Point the needle at right angles to the edge, and take a stitch one eighth of an inch deep (Fig. 89). Hold the buttonhole so that it lies flat on top of the first finger. Do not spread it open. Throw the double

(4) Making the buttonhole stitch.

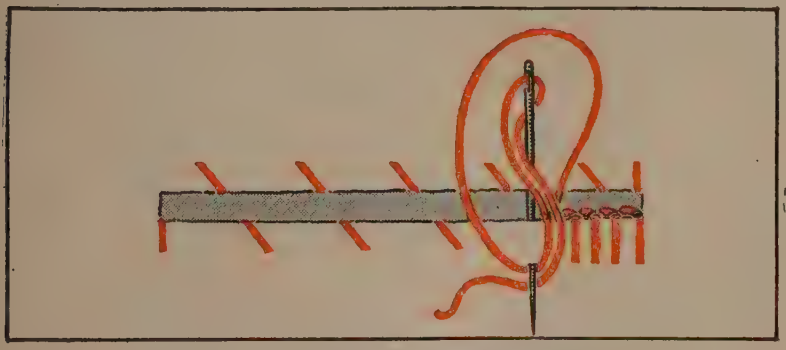

Fig. 89. — Making the buttonhole stitch.

thread from the eye of the needle, around the point, in the same direction as the buttonhole is being worked from right to left. Draw the needle through, pulling the thread at right angles to and toward the cut edge of the buttonhole. A little finishing loop called the purl will be formed at the edge. It is this which prevents the edge of the buttonhole from wearing. Continue along one edge until the corner is reached. Remember that all stitches are to be the same depth and to have about

the space of a thread between stitches, and that the purl is to lie exactly on the edge.

There are several ways of finishing the corners of buttonholes. They may have two fan ends, or one fan and one bar, or two barred ends. How can we tell which way to plan? A barred end is stronger than one which has only a fan. One must judge how it is to be used, and then make the proper combination of ends. The picture (Fig. 90) shows both the fan and the bar. The fan is made with the same buttonhole stitch. Five stitches make a good fan. The third one is taken on a line with the cut and is the deepest, and the two stitches each side are slanting and of a depth to make an even fan effect at the turn. The fan can be made more easily by turning the buttonhole so that the end to be worked with the fan is pointed towards the worker and the cut edge is over the finger.

(5) Turning the corner.

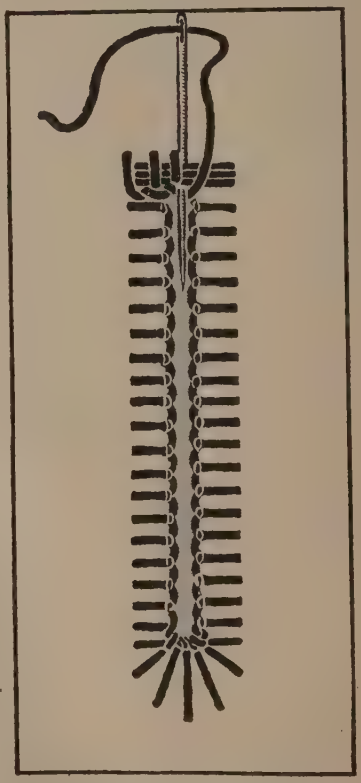

FIG. 90.— The bar or the fan may be used at the ends of the buttonhole.

After making the fan turn the buttonhole, and along the second side make the buttonhole stitch of the same depth and evenness as along the first side.

(6) Buttonholing second side.

Practice a bar end. Turn the buttonhole so that the end to be finished lies across the finger with the fan end towards worker. Make two or three small stitches one over the other to bar the end, these to extend across width of buttonhole stitches. Over these the blanket stitch is to be placed. This is very easy. Look at the picture of it (Fig. 75) on page 153. These stitches are to be taken close together and through the cloth, around the three barred stitches. This makes a firm finish. Point the needle towards the worker and make a straight row of blanket stitches.

(7) Finishing second end.

Start with a double thread, and make two stitches one over the other on the right side of the bag pocket. String a button on the needle to cover starting stitches. Place a pin on top of the button (Fig. 91). Sew over it with stitches crossed back and forth through the holes of the button. The stitches should be taken so that the pull of the button will come on the warp threads of the garment. On the wrong side the stitches should appear in parallel bars lying on the woof or filling thread.

(8) Sewing on a button.

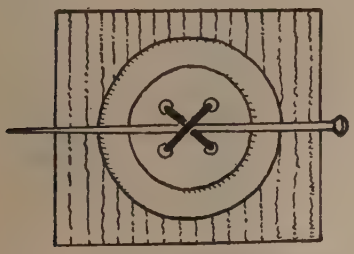

Fig. 91. — Do you know how to sew on buttons correctly?

On top of the button the stitches should cross. Why is it necessary to sew over the pin? Remove the pin and wind the thread around the stitches under the button. Finish on wrong side with several finishing stitches.

4. Marking the bags.

How do you suppose the girls knew their own bags? Miss Ashley also taught them the cross-stitch, and all put their initials at the center of the side of the bag just above the hem. Those girls who worked quickly put theirs on at school; others did theirs at home. Miss Ashley said that the cross-stitch could be used in many places. Mrs. Vincent sent some articles to school for the girls to see. Miss Ashley had some, too. There were lovely designs on bags and covers and cushions and initials on towels (Fig. 92).

(a) Attractive gifts can be made with the cross-stitch.

Very attractive gifts for mother or grandmother can be made with this stitch. Molly Anthony made a set of bath towel, face towel, and wash cloths for their baby at Christmas time. She marked each with a pretty wreath in cross-stitch design and with baby's initial within the wreath.

FIG. 92. — Some articles on which cross-stitch was used.

Dorothy Vincent brought to school an old sampler which her grandmother had worked in cross-stitch when a girl (Fig. 93). In those days girls learned to sew at home, on long seams, and every little girl made a sampler with bird and flower designs and sometimes verses and the letters of the alphabet. They all learned to sew very well and very neatly. Have you ever seen a collection in museums of this kind of old needlework? At Commonwealth City they have a loan collection every winter at the library. This is in charge of the city historical society and each year they try to have something different in the way of antique and quaint exhibits. Next year it is to be old laces, watches, and daguerreotypes. This year it was old samplers and coverlets. Have you had such exhibits in your city?

(*b*) Old samplers were made with cross-stitch.

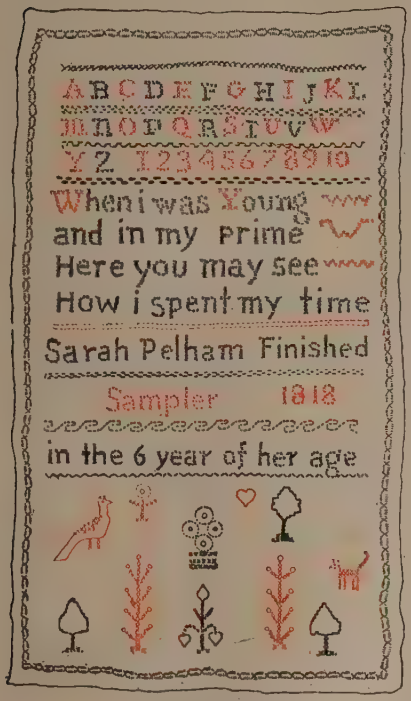
A B C D E F G H I J K L
M N O P Q R S T U V W
X Y Z 1 2 3 4 5 6 7 8 9 10
When i was Young
and in my Prime
Here you may See
How i spent my time
Sarah Pelham Finished
Sampler 1818
in the 6 year of her age

FIG. 93. — An old sampler worked in cross-stitch.

The cross-stitch is a simple one and was used on much

of the old needlework, for initials or for designs. The girls used two or three initials and placed them in the center of their bags. This is how they looked in the design (Fig. 94). Can you design some in your art class on squared paper as the girls at the Ellen H. Richards School did? They used Penelope canvas and basted it very carefully in position until the warp and woof threads of the canvas were lying exactly on those of the towel. The canvas is squared like the paper and the stitches are taken over the threads or squares of the canvas following the design of the pattern (Fig. 95). Some materials are very coarse and can be followed without using the canvas, but on linen or other finely woven material it is necessary to use the canvas. Penelope canvas is woven very loosely, and the threads can be drawn out after the cross-stitch is finished. This will describe to you the method of making the stitch which the girls of

(c) The cross-stitch.

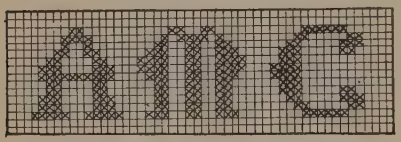

FIG. 94. — Patterns for cross-stitch may be made on squared paper.

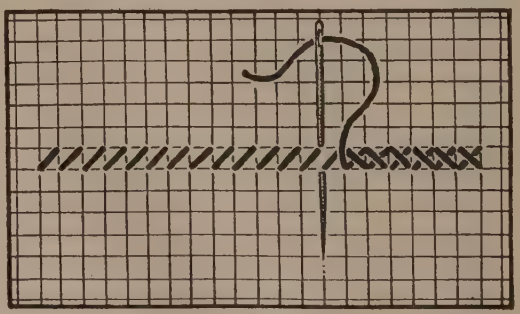

FIG. 95. — The cross-stitch is easy and very decorative.

the Ellen H. Richards School used in marking their envelope workbags very neatly.

Baste the canvas carefully so that the warp of the canvas lies on the warp of the cloth. The canvas comes in several sizes, some finer than others, and this makes a difference in the size of the design when finished. The stitch consists of two slanting lines crossed. On the wrong side all the stitches may be *either* vertical or horizontal, but should be one or the other. Do you know the difference? The canvas is so woven that one makes the cross over two threads high and two wide. Bring the needle up to the right side at the lower left corner of the square that the stitch would form if crossed. Pass the thread slanting across the warp threads, and take the stitch on a line with the warp, pointing needle towards the worker. When the thread is drawn through, a slanting line of half the cross is made. This can be repeated across a whole row according to design, and the cross finished by returning from right to left with the same vertical stitches. It is necessary to have all the stitches of the design crossing one way: the ground stitches, or first half, one way; the other half, or upper stitches, all the other. Look at Fig. 95; it will help you to make the stitches evenly and neatly.

(1) Method of making.

Do you not think the girls had very attractive workbags? They used blue or red D. M. C. or other cotton for marking and matched the color of the striped toweling used.

Suggestions for Review

1. Practice making six buttonholes. Plan a contest and score card with your teacher as the girls of the Ellen H. Richards School did.
2. Give the steps one should consider in making a good buttonhole.
3. Name three uses for the overhanding stitch. Draw a picture of it.
4. Plan an exhibit of cross-stitch designs. Try to borrow some old samplers as the girls did in Commonwealth City.

Lesson 21

How cotton cloth is woven

The girls had been learning to distinguish different cotton materials. They had learned how the cotton plant furnishes the fiber for clothing. All were anxious to know how cloth was woven from it. Are you?

Constance Moore had an aunt who had lived in the South near a large mill where cotton materials were woven. Aunt Molly had a number of pictures which she put in the reflectoscope and showed the girls one day when Miss Ashley asked her to tell them about the weaving of cloth. Have you ever been in a large factory room filled with machines for weaving cloth? The picture will give you some idea. Aunt Molly told the girls that it was like a whole field of nothing but buzzing machines. It is a very busy place (Fig. 96). It is about 130 years (1789) since the first cotton mill was started in the United States. To-day we have many

1. The first cotton mill in America was started in 1789.

mills in all parts of our country, and what do you think they make?

The manufacturer receives the large bales of cotton weighing 500 pounds. Some manufacturers change the cotton into thread of various kinds for sewing, crocheting, and knitting. Some make cotton cloth of one or many varieties. We know the names of many. Others manufacture gloves or hosiery

II. Some uses of cotton.

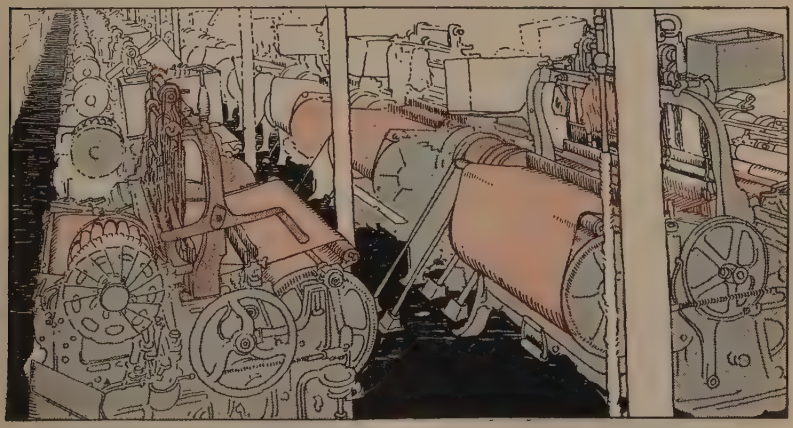

Fig. 96. — A whole room full of buzzing weaving machines.

or towels, while some make gauze, absorbent cotton, and things for surgical use for the sick. Then there is also the great knitting industry, using cotton for underwear and many other purposes. Lace, too, is made from cotton, and also embroideries. Cotton is also manufactured into gun cotton for war purposes. Think of how many people are busy making our cotton clothes and all the other articles we use!

Aunt Molly showed the girls a picture of one of the machines which weaves cloth. Do you know its name?

III. A machine called a loom weaves the cloth.

It is called a loom (Fig. 97). The girls had learned that the lengthwise threads of the cloth are called the warp and the crosswise threads the filling threads. Aunt Molly

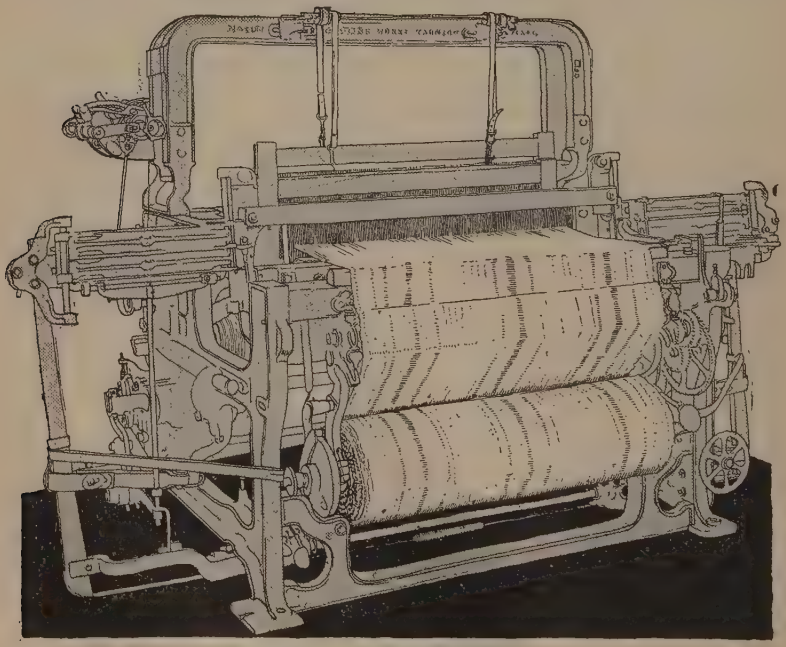

FIG. 97. — A modern loom.

pointed to the long warp threads running from the front to the back of the loom and showed how the filling thread goes back and forth over and under and makes the cloth and the firm selvedge edge as it turns at the

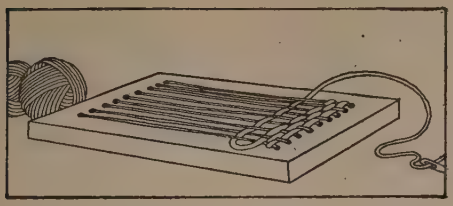

FIG. 98. — Did you ever make a loom from a box cover? Try it.

outside warp threads and works back and forth. Have you ever woven a piece of cloth? If not, you can make of a piece of cardboard a small loom like the picture, and weave a piece of cloth (Fig. 98). The girls at the Ellen H. Richards School did this in the third grade. The cardboard with its holes is also a loom. Aunt Molly showed the girls Miss Ashley's small school loom and compared it with the big modern factory loom. You will see in the picture that it shows the warp and filling threads and the firm selvedge edge. Do you know why the piece of wood with the holes and slits is used (Fig. 99)? This is called the heddle. One warp thread is held in a hole and the next one slips in the long slot.

1. The threads of the loom.

2. The parts of the loom.

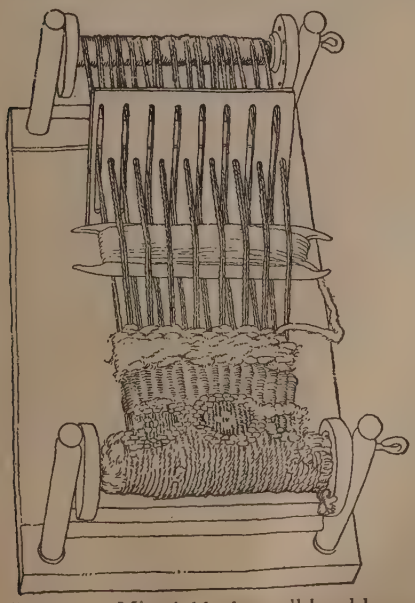

FIG. 99. — Miss Ashley's small hand loom.

This is a timesaver, for then it is not necessary to go over and under every thread, since the heddles raise the alternate ones all at once. Edith Potter invited the girls to visit her house to see her grandmother's old loom in the attic. The picture will show you how it looked (Fig. 56). Can you find the heddle? It has two heddles, one for each set of alternate threads. Aunt Molly had a picture of a cloth loom of Colonial days similar to this. Can you find the big roller on which the long warp threads are wound? It is at the back of the loom. The warp threads extend to the cloth roller near the front, where grandmother sits. The filling thread is wound on a small bobbin which fits in the shuttle. Grandmother Potter, in the picture shown, is ready to weave a rag rug. She holds the shuttle and throws it back and forth. She uses her feet, too, for the treadles are attached to the heddles; in this way she alternates the warp threads. As she throws the shuttle the filling thread unwinds and goes over or under the alternate threads and makes a piece of cloth, just as the tiny school loom does and the wooden loom also. The picture of the shuttle (Fig. 100) will give you an idea of how it holds the bobbin threads.

3. The Colonial loom.

FIG. 100. — The shuttle holds the bobbin of weaving yarn.

There are many different kinds of looms; and of course we know that cloth is comparatively cheap to-day because it is made so quickly by modern

machinery, instead of by hand on the hand loom as in Grandmother Potter's day. From early times and in different countries people have tried to make cloth as they felt the need of clothing to wear. The looms made by all kinds of primitive peoples are very interesting. You will find some in the city museums. Miss Ashley planned to take the girls some Saturday to visit the Natural History Museum at Capital City. It was only an hour's journey from Commonwealth City. You will see in the pictures some primitive looms (Figs. 101, 102). What does primitive mean? These early inventions are very interesting, for they show the ingenuity of the people. In one picture you will see the Indian girl weaving a belt. Her loom is attached to a tree and the warp held securely there and at her waist. She cannot make a very long piece of cloth. She holds the shuttle with the filling thread in

4. Primitive looms were for the same purpose.

FIG. 101. — Have you ever seen a loom like this which the Indian woman is using in making a belt?

her hand. Study the pictures of the other primitive looms. Look at Fig. 102. The Japanese girl is weaving silk cloth. See how many of these parts you can find: warp, warp roller, cloth, cloth roller, bobbin, shuttle, filling thread, heddles, treadles.

FIG. 102. — Many lovely silks are made to-day on the primitive hand looms.

Don't you think that the Sunnyside girls enjoyed Aunt Molly's talk, especially as the pictures in the reflectoscope helped them to understand the story so easily and to know what the modern loom really accomplishes as its machinery throws the shuttle back and forth and the heddles are raised by the machine to make a shed of alternate

5. The modern loom makes the same motions.

threads? For the next day Miss Ashley asked the girls to be prepared to tell the story and to use the pictures which they would find in her filing case to illustrate. The girls found this an interesting piece of home work, and some girls found their own illustrations.

Suggestions for Review

1. Make a small loom for your sister or brother. String the warp and show him how to weave.
2. Try to make another type of loom from a wooden box and plan for cloth and warp rollers and a heddle.
3. If possible visit a factory where some kind of cloth is woven.
4. Try to find pictures of primitive looms. Trace drawings of them from library books.

Lesson 22

COTTON SPINNING

Dorothy Vincent asks a question. You will wish to know the answer, too. She cannot understand where the weaver gets the yarn for the warp and for the filling thread used in the loom.

Miss Ashley said that the yarns for the warp and for the filling were spun. Do you know what that means? Dorothy Vincent said that she understood perfectly how the cloth was woven but didn't see how the tiny cotton fibers were made into the warp and filling threads. Shall we study how? Miss Ashley took the girls to a cotton spinning and weaving mill and they saw the whole process.

I. Cotton is spun to make the warp and filling threads.

As they entered the mill they saw a large truck loaded with cotton bales which had just come from the railroad station. The bales were covered with bagging and bound with iron bands. They entered the factory and saw the bagging and bands removed in the first room and the cotton placed in an opener or bale breaker. You will remember that the cotton was pressed very hard for shipping. The next machine into which the opened cotton was placed

1. It is opened by a cotton breaker.

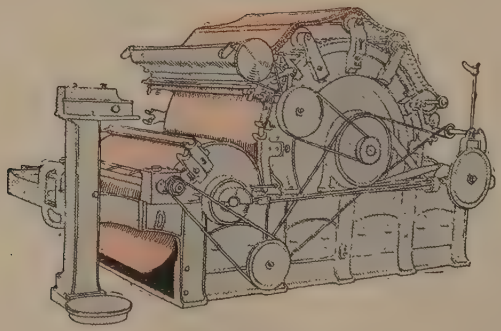

FIG. 103. — The cotton carding machine cleans and prepares the cotton for the next process.

was called a picker. This blows the cotton apart and takes out dirt and dust and dry pieces of the cotton bolls. The cotton passes through this machine and leaves it in the form of a fleecy sheet 6 feet wide, and is rolled into a large roll like a roll of batting. This is soft and clean. Then the girls watched the men take these large rolls to another room and place one of them in the back of each of the machines called

2. The cotton picker then removes some of the dirt and blows the cotton into a soft, fluffy condition.

the cotton carders. These carding machines clean the cotton again and also change its appearance (Fig. 103). It passes into the machine from the wide roll or lap of cotton at the back and comes out in the form of a rope of soft and beautiful cotton. The rollers of the machine which you see in the picture are covered with

3. The cotton carder then cleans it again and makes it into a roll called a sliver.

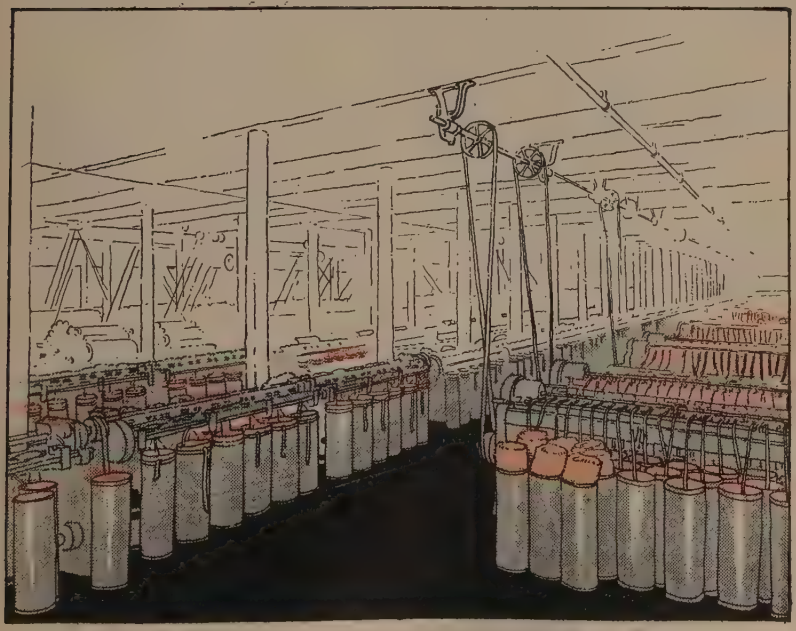

FIG. 104. — A cotton carding room.

fine teeth which clean the cotton and make it fluffy. This cotton rope or sliver is rolled or coiled in cans put at the front of the machine to receive the sliver,

which is a long, continuous rope of cotton. Is it not a wonderful machine (Fig. 104)?

The girls then saw many machines which took these ropes of cotton and wound them on spools. Each machine through which it passed drew the rope out thinner and finer until it was drawn to the size the manufacturer wished. Miss Ashley called the attention of the girls to this and asked why the cotton rope did not break. Take a piece of fiber, draw it out by hand, and see if it grows thinner like the rope. It will probably break unless you twist it, too. That is what these spinning machines do,—they not only draw out the cotton sliver or rope and make it thinner, but they put in a twist which prevents it from breaking easily. Do you remember about the natural twist in the tiny fiber of cotton? Look at it again under the microscope. This twist helps also in the spinning. Is it not wonderful that such tiny fibers can be made into spun yarns ready for the warp of the cloth or for filling thread?

4. The cotton slivers are drawn and spun.

(*a*) Spinning draws out the fiber, twists it, and winds it on a spool.

(*b*) The natural twist of the cotton fiber helps.

Grandmother Potter told the girls that long ago when there were no factories or spinning machines, fibers were spun by hand. In the garret at the Potters' house was an old spinning wheel which looked like this picture (Fig. 105). It was called the wool wheel or great wheel, because it was used for spinning wool yarns. Then there was also a

II. Spinning in olden days.

smaller spinning wheel called the flax wheel, which was used for making yarn of flax or linen. The day the girls went to visit Grandmother Potter she sat down at the flax wheel and showed them how to spin. She pressed her foot on the treadle like a sewing machine and the wheels turned. Look at the picture. You will see a holder, called the

1. The great wheel.

2. The flax wheel.

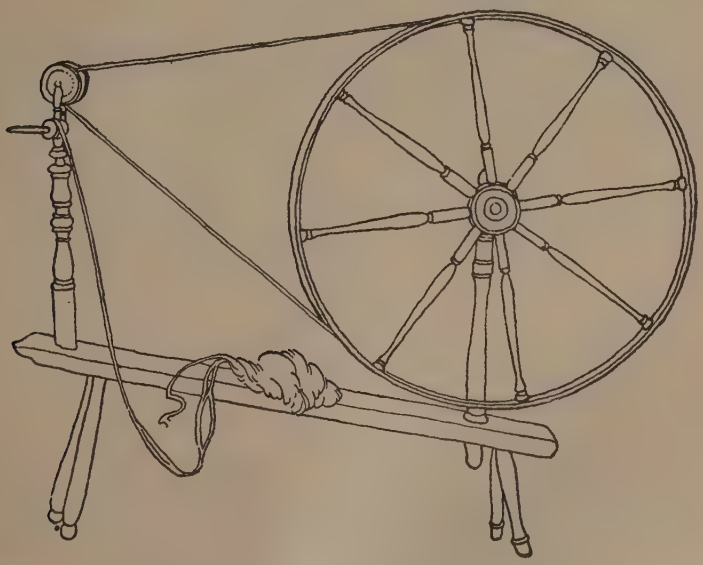

Fig. 105. — Grandmother Potter's old wool wheel.

distaff, which held the flax. Grandmother held and drew the flax from the distaff while the wheel put in the twist (Fig. 106). Isn't that what the modern spinning machine does? Think how much more it can spin in a day than grandmother could! The

beautiful old hand-spun and hand-woven textile materials, made of linen and of wool, are much admired. It is a great satisfaction to possess them. Perhaps you have some old hand-spun and woven sheets or towels or an old coverlet (Fig. 107). Grandmother Potter had a number which she showed the girls. They were of lovely colors, blue and white, and mahogany brown and white. They were woven of cotton and wool yarn. Grandmother Potter showed the girls the old hand cards which she had used in preparing the wool for spinning (Fig. 108). You will see in the pictures how they look and were used. These hand cards worked something like the cotton carding machines which we have been studying about. The fine teeth on the boards were drawn back and forth to clean the fibers, and then the little rolls of wool were prepared for the great wheel to spin. This took much time and patience when grandmother was a girl.

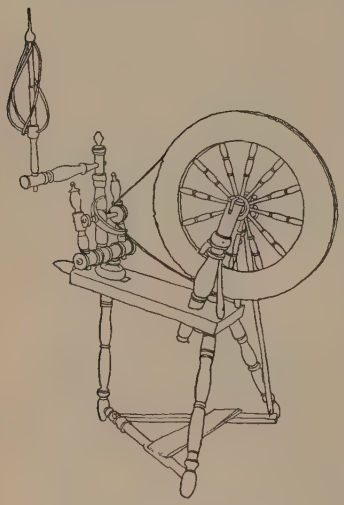

Fig. 106. — The flax wheel.

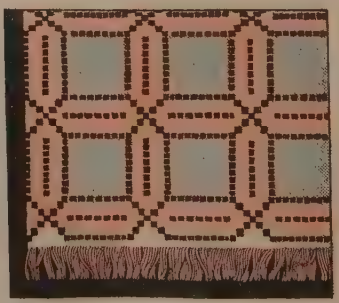

Fig. 107. — One of Grandmother Potter's old coverlets.

The girls invited Grandmother Potter to a motion picture exhibit which was to be given at their school. These pictures showed how cloth was made in Colonial days and also by the modern method. The girls explained the pictures and told the story, too. The same day Miss Ashley asked all the children to bring to school any old industrial objects which they had at home. She planned to have an exhibit of the tools and machines used in preparing cloth in Colonial days and also of hand-spun and woven articles made on them. All the girls were anxious to invite their mothers. Miss Ashley permitted them to prepare some simple refreshments — coffee and cookies, or lemonade and cookies. All enjoyed the exhibit and many of the parents recalled the processes of early days, but felt thankful for the modern machines which do the work of spinning and weaving so quickly (Fig. 109).

III. An exhibit at school.

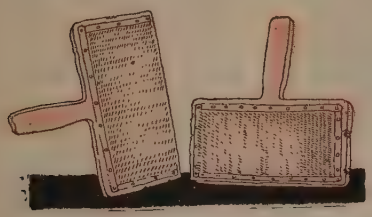

FIG. 108. — Grandmother Potter's hand cards which were used in carding wool by hand.

FIG. 109. — Some of the things brought by the girls for the industrial exhibit.

Suggestions for Review

1. Look in the encyclopedia and see if you can learn who invented the first spinning machine; the first loom; the first carding machine.

2. Try to spin a piece of wool by hand. Find some pictures of primitive spindles and bring them or tracings of them to class.

3. Write a letter to your mother or aunt telling about cotton spinning in the modern factory where yarns are prepared for warp and for filling threads.

4. Tell how Grandmother Potter used to spin wool and flax into yarn.

All the Sunnysiders liked to use the sewing machine.

CHAPTER II

SOME LESSONS ON THE SEWING MACHINE

The girls of the Ellen H. Richards School learn to use the sewing machines and to make some useful articles of clothing for the Red Cross and for themselves.

Miss Ashley told the girls that during the year they were to learn to make some garments. All the girls were most interested and had been looking forward to the time when they could use the sewing machines and make something to wear. Miss Ashley thought that it was foolish to sew long seams by hand unless one had much leisure time, or it was one's object to produce a beautiful handmade article or garment. The machine does the work very neatly if one knows how to use it well, and much time is saved which can be more profitably spent on other interests. This timesaving is a factor to be considered in everything one makes.

Miss Ashley said, too, that one should consider whether it is more profitable to buy articles ready-made

or to take one's time to do so. Undergarments made at home are usually more durable than those bought ready-made if the materials are carefully chosen. One garment will often outwear two bought ready-made. The homemade are apt to be better finished, too, and so do not pull apart. Cheap machine-made goods usually have very coarse stitching.

In either making or buying underwear, one must also consider the laundering and wearing qualities. A garment which is elaborately trimmed with ruffles will cost more in time and energy to launder than one trimmed with flat trimming of lace and feather stitching. The latter stands the strain of washing better, too (Fig. 110). In buying ready-made garments, one must think

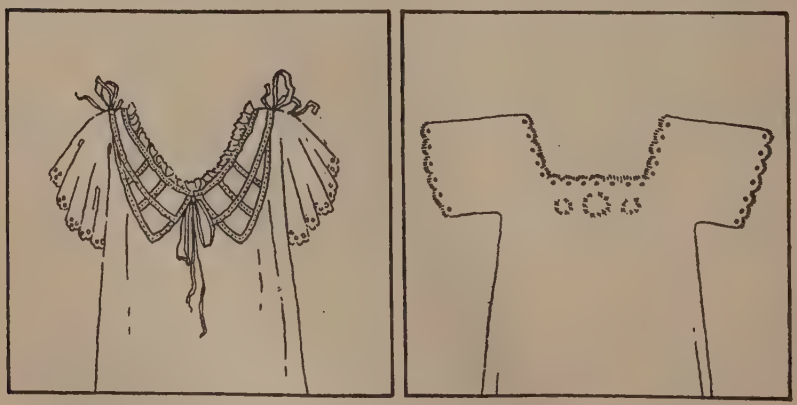

Fig. 110. — Which of these gowns do you think will launder more easily?

also of the cut. Do they permit one to move freely? Often garments are bargains because they are scantily

cut. Whether you should make or buy your undergarments will depend on how much leisure time you have and also on how well you can organize the use of your time. Dorothy Vincent's mother made all the shirt waists which her daughters wore because she said they wear longer, she used better material, and the appearance was better. She loved to sew, and managed her time so as to do it without tiring herself too much. One must always consider whether it is worth while. Very often the cost of one's clothing can be reduced if one can make some articles at home. Miss Ashley was anxious to show the girls the splendid new machines and to have them begin their wearing apparel. She also planned to have them spend one period each week making Red Cross garments by machine, according to the directions given in the manual published by the Red Cross.[1] This manual explains very fully, so no directions will be given here.

Lesson 23

THE SEWING MACHINE

The Sunnyside girls begin to practice on the sewing machine. Will you practice, too, before you begin to sew the seams of your apron?

Long ago, before the days of sewing machines, our great-grandmothers had to do all their sewing by hand. Do you know who first thought about invent-

[1] Teachers Manual, Junior Activities, American Red Cross, Washington, D. C.

ing a machine for this purpose? It was Mr. Elias Howe of Cambridge, Massachusetts. You will wish to study about his invention. Look it up in the encyclopedia or the Book of Useful Inventions. Since his time many different machines have been invented, some to run by foot power and others by electricity.

I. By whom was the sewing machine invented?

You will see in this book pictures of two kinds of foot power sewing machines. One (Fig. 111) has only one thread, which is placed on a spool on the top. The other has two threads and is called the double or lock stitch machine. This is because one thread is placed on top on a spool and the other is on a small spool called a bobbin which is placed in the shuttle under the plate. When the machine is working, the two threads lock together. We shall study how later. The single thread machine is also called the chain stitch machine. The end of the one thread must be fastened securely in sewing because the stitching rips easily. One must stitch on the right side of a garment for good effect.

II. The modern sewing machine.

1. The single thread machine.

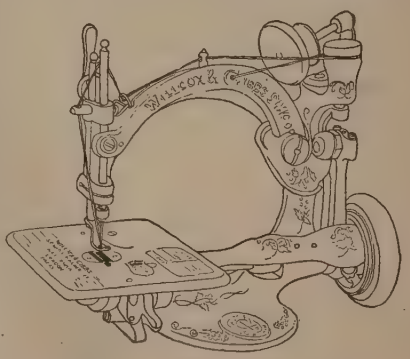

Fig. 111. — A single thread machine.

The stitching on the double or lock stitch does not

rip easily, and one can stitch on either the right or wrong side of an article, which is a great convenience (Fig. 112). Would you like to study the parts of these two machines as the Sunnyside girls did? They had both kinds in their school laboratory, and Miss Ashley placed them side by side on the desk platform as she explained. Edith Potter was asked to notice all the parts on both machines below the table. Yes, the treadle is for the feet. Miss Ashley worked it. What use is the connecting rod? What does it connect? What makes the wheel above the table turn? Miss Ashley asked all the girls to learn to treadle evenly at home if possible. She showed the girls how to sit properly, to place their feet, and to treadle well. This can be done before one learns to thread the machine or to stitch.

2. The double thread or lock stitch machine.

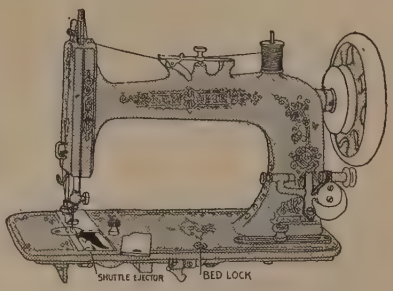

FIG. 112. — A double thread machine.

Natalie Underwood was called on to tell about any of the parts she knew above the table. Miss Ashley wrote the names on the board, — the spool holder, which holds the spool; the needle bar, which holds the needle and works up and down; the foot, which is called the presser foot, and can be lowered or raised by the little handle;

3. The names of the principal parts above the table.

the needle plate, through which the needle passes; the little part of sharp teeth called the feed, which is like a comb and helps to move the cloth along as one stitches. The big shaft supports most of these parts. Both machines have all these parts. The double thread machine has in addition the shuttle for the second thread, which lies in the shuttle race under the plate. Miss Ashley moved the plate, took out the shuttle, and removed the bobbin. The small attachment near the wheel is for winding the bobbins of thread to be used in this shuttle. Constance Moore noticed that there were some screws near and asked Miss Ashley their use.

Miss Ashley said that there are usually two large screws on the double thread machines which are important. One, which she showed the girls how to turn, is to change the size of the stitch, to make it smaller or larger. We say to regulate it.

4. The use of the screws for regulating the size of stitch.

The second is to regulate the tightness of the thread. This is called the tension. Miss Ashley told all the girls to take a piece of thread and to place it between the thumb and first finger. When these fingers are tightly pressed the thread does not pass easily, but breaks. When the fingers are not pressed very tightly, the thread passes easily. Try this, for it will teach you just how the tension acts. It is regulated by a screw which presses the two little nickel plates together. The thread

5. The use of the tension screw explained.

passes between these plates. When screwed together too tightly, the thread will break; when loose enough, the thread passes easily between them, so that in using a machine one must learn where the tension plates are and how to turn the screws in order that the thread which passes between them may run smoothly without breaking. Your teacher will show you how to turn the screws.

The single thread machine has a tension, too. Miss Ashley showed the girls where it was. It is different, however, for it has no screws to regulate it but regulates itself and so is called an automatic or self-acting tension. After this talk Miss Ashley said that some of the girls were to go to the machines and practice treadling and finding the parts. However, she first talked about cutting out their work or bungalow aprons. As there were not enough machines for all, she said that some might practice at the machines while others were cutting out. This saved time. This is what those at the machines had to do:

1. Learn to treadle evenly.
2. Make a list of all the parts above the table of the machine; below it.
3. Learn to raise and lower the presser foot on a piece of brown paper, and to stitch without a thread. If well done there will be even rows of needle pricks on the paper.

Suggestions for Review

1. Practice treadling on mother's machine at home.
2. Try to stitch even rows of pricks on the machine at home, raising the presser foot evenly and carefully.
3. Write the story of the use of the connecting rod of the machine.
4. Describe the difference between the single and the double thread machine.

Lesson 24

Another Lesson About Cotton Materials

Miss Ashley showed the girls the bungalow apron and asked them to think about the materials to be used. Would you like such an apron and a cap for your housewifery lessons? The Sunnyside girls will use theirs while working at the apartment. The picture shows Dorothy Vincent wearing her cap and apron. She is busy cleaning (Fig. 113).

Fig. 113. — Dorothy Vincent wearing her cap and apron.

I. More cotton materials. Miss Ashley brought out the piece bag marked cotton. It seemed to be very full of scraps of all kinds. She also had the catalogued cards with all the samples of materials which the girls had mounted up to date. She said that some of the materials which they had studied were suitable for the apron. Margaret Langley named them. Yes, chambray, gingham, percale, and calico all are useful for

that purpose. Miss Ashley showed her finished apron. It was unbleached in color and trimmed with a flat yoke and cuff trimming of coral chambray material. She said that the coral trimming was galatea and the apron part unbleached muslin. Shall we study about these to-day and add them to our catalogue? There are also a few suitable for underwear which we have not yet studied and soon shall use.

Unbleached muslin is used for many articles. Grandmother Potter always used it for sheets and pillow cases. It bleaches in use. Why isn't it white? In great-grandmother's day she bleached on the grass the linens she wove. Do you know what bleached them? To-day many materials are bleached white by dipping them in a bath of chloride of lime and then in another of water and sulphuric acid until the material has become white. Sometimes the modern bleaching weakens the material if it is not done carefully. Unbleached muslin has not been dipped and so is apt to wear very well. It is of plain weave and is cheaper than bleached muslin. It comes one yard and wider in width, and varies in price according to quality from 15 up to 50 cents per yard, and more for wide sheeting.

1. Unbleached muslin.

Bleached or white muslin can be bought in several qualities from 20 cents a yard up. Miss Ashley found in the bag some pieces of fine as well as coarse muslin. One piece cost 50 cents a yard and was soft and fine. The width varies,

2. Bleached or white muslin.

too, from 36 to 72 inches. Muslin is woven wide for use as sheeting, so no seam is necessary through the center of the sheet. Some girls thought they would use the white muslin for their aprons and others the unbleached.

3. Galatea.

Galatea comes in white, too, as well as in colors. Miss Ashley showed several samples; one was coral like her apron trimming. It is a firm material, and used for many purposes, — for children's clothes, girls' middy blouses, or dress skirts. It washes well, too. It costs from 40 to 75 cents a yard and comes 27 inches wide. The white is somewhat like Indian head and duck, which we shall study next.

4. Indian head and duck.

Such strange names for materials! Natalie Underwood's dress was made of Indian head and Constance had on a duck skirt, so all had a chance to see how they looked in use. Constance had a blouse of white galatea, too. All of these materials wear well. The duck is used for men's trousers also, and heavy qualities for awnings, tents, and sails. Duck is sometimes colored like the galatea. It costs 40 cents a yard up, and varies from 27 to 36 inches in width. Indian head costs 40 cents up according to quality, and is about the same price as duck and comes in the same widths. Its uses are about the same, too (Fig. 114).

5. Nainsook.

Here are some other materials suitable for underwear. The first one is called nainsook, such a queer Hindoo name. It was named in India

for a soft material made there. Nainsook comes in several grades and is used for clothing for baby as well as for underwear. It is soft and finished with very little dressing or starch to stiffen it. The cost is 40 cents to $1.50 a yard, and its width is 36 inches. Miss Ashley had some coarser qualities to show the girls as well as the fine nainsook.

Fig. 114. — Constance is writing the names of some of the cotton materials she knows.

Yes, the crinkly one is cotton crêpe. It is used for underwear and for dresses and shirt waists, too. It is considered very economical to use. Can you tell why? Yes, it is easily washed and when hung in the fresh air and sunshine does not need to be ironed. It is stretched and the crinkles dry in place and much time is saved. It costs from 40 to 75 cents a yard and sometimes more for dress crêpes, which come sometimes 30 inches in width.

6. Cotton crêpe.

Cambric, too, is used for underwear, and is a plain, firm weave. The coarse grades are called cambric muslin and are used for linings and other purposes. They have a smooth, glazed finish.

7. Cambric.

The finer qualities are used for underwear. The name is from Cambrai, France, where it was first made. It costs from 25 to 50 cents per yard and is very durable, but not quite so heavy and strong for underwear as muslin. It is woven a yard wide.

8. Dimity.

Dimity is a thin material. Look at it. Sometimes it, too, is used for underwear. Margaret Langley had a white dimity dress last summer. Dimity is sheer and light, and can be easily recognized because of the little cords or ribs. It is not suitable for underwear which must have hard usage every day. It comes in colors and also with printed designs, which are very dainty. Miss Ashley had samples to show the girls. It costs from 35 to 75 cents a yard and is a yard wide.

9. Lawn.

Miss Ashley held up another thin, sheer one without cords. Yes, it is a lawn and is a plain weave. It comes in colors, too, and in inexpensive qualities as well as in finer ones. It is woven from 36 to 40 inches wide and costs from 25 cents to $1.50 a yard. Do you use it at your home for any purpose? Yes, curtains sometimes, aprons and dresses, too. The blue piece which Miss Ashley held up was much admired. Lawn is smooth, starched, and pressed when one buys it.

10. Mull.

Another piece of plain weave which Miss Ashley had was soft but not starched. It is used for pretty white dresses but is too fine for underwear. It has a Hindoo name, meaning soft, and is

called mull. Do you recall that cotton was grown and used in India long before we had it in America? That is why our materials so often have Indian names. Mull costs from 60 cents to $1.50 a yard and is woven about a yard wide.

Miss Ashley showed one more. It is called cotton huckaback or bird's-eye. Have you ever seen such material before? Yes, it is made into towels. Here is one in the picture which Mrs. John Edwards gave Miss Ashley last Christmas. It is made of all linen huckaback. It comes also in a union of cotton and linen and varies in cost according to quality. It is woven from 18 to 27 inches wide. Sometimes it is sold by the yard or by the piece of 10 yards, which makes it cost less.

11. Cotton huckaback or bird's-eye.

So many new materials for the aprons and for underwear, too! Who can make a list of them on the blackboard? Who is to mount them on the sample cards? Do you think you can remember the uses of each, the name and approximate price and width? Which will you use for your aprons; which for underwear; which is the heaviest; which the lightest and daintiest of all studied to-day? The unbleached muslin is very suitable for the apron and costs 15 cents a yard. How much will you need? The apron must cover the whole dress for work purposes.

Suggestions for Review

1. Name some cotton materials suitable for the housewifery aprons. Which will you use for yours? Which will be the least expensive? the most?

2. Name four materials suitable for underwear. Find samples of each and tell the price and width.

3. Mrs. Edwards wished to make a dainty white dress for Dorothy. Which material of those studied do you think she purchased?

Lesson 25

THE PATTERNS FOR THE APRON ARE STUDIED

The girls studied the pattern of the apron and learned how to use it. Have you ever used a commercial pattern? Do you know what all the marks mean? Dorothy Vincent thinks they are very puzzling.

Miss Ashley had several patterns to show the girls in the pattern book (Fig. 115). One was the apron which you have seen in the picture of Dorothy Vincent. It is simple, has long seams for practice in straight stitching, and some corners to turn. Miss Ashley chose this one. It has kimono sleeves, that means the sleeves are cut with the apron all in one piece and are not made separately and sewed in. The girls had all measured for their aprons by taking the length

1. The style of the apron.

Fig. 115. — The girls consulted the pattern book.

from the shoulder at the side of the neck to the floor and adding three inches for the hem. As both front and back of the apron are cut in one piece without a shoulder seam, twice this length is required. The unbleached muslin chosen by most of the girls was a yard wide. That was fortunate for it saved time since they did not have to piece the widths of the apron.

Let us study the pattern which the girls used. Miss Ashley had bought two, and Constance and Dorothy had helped her before class to cut a pattern just like it for each girl. Did you ever buy a commercial pattern? Many good magazines offer patterns for sale. There are also stores or firms which make a business of selling only patterns. Some patterns are better than others. The simplest are usually the best where the figure and its proportions have been kept in mind.

II. The commercial pattern.

1. How obtained.

Did you ever try to make a pattern all by yourself? Try to do so. When Miss Ashley was a little girl she made many doll's clothes. She brought some to school one day to show the girls. She never had a pattern. How do you suppose she managed? She used to pin the paper on her doll's body and cut all around just as the picture shows Dorothy cutting one for Natalie. She made a good curve at the neck and armhole, and a slanting cut under the arm to allow for fullness at the bottom of the garment. Dorothy thought that commercial patterns were very puzzling; do you? I am sure you will not after we have studied them.

Try to cut some patterns for sister's dolls or for sister; it is good fun. Dressmakers often make patterns in this way and do not have to send to the store for any (Fig. 116).

2. How to order patterns.

Patterns are bought by measure or by age, a skirt or nightdress or drawers may be ordered for age 14 years; a shirt waist for 34-inch bust measure. Other measures are sometimes given on the pattern, too; as a dress skirt may give the length of skirt, waist measure, and measure around the hips. Patterns for children and young girls are nearly always bought according to age. If girls are large or small for their age this must be remembered in ordering the pattern. Miss Ashley had a 12-year size and also a 14-year in the apron pattern; so all in the class were pleased and fitted.

Fig. 116. — Did you ever make patterns in this way when you were a little girl?

3. The pattern is studied.

Miss Ashley had removed the pattern from the envelope and had pinned the pieces on the burlap screen near the blackboard for the girls to study. Let us look at the pieces on the screen. How many are there?

Miss Ashley asked Julia Oakes to stand before the class while Edith Potter held the pieces of the pattern

up to her (Fig. 117). Yes, the large piece is the apron width. One small piece is for the pocket. The long, straight piece is for a belt. Is it long enough? No, it is only half large enough for Edith's waist. Will the apron cover her? No, only half of her dress and arm from shoulder to floor and no back portion. Two more pieces are included. Yes, one fits the neck, and the other the bottom of the sleeve as a facing for the trimming. Are they large enough for the whole neck or whole sleeve? No, only half is given. Did you know that patterns are made in that way, giving only half a front or half a belt? The pieces must be cut double because you wish to have the apron front or belt or neck trimming all in one piece. Have you learned to do this? It is easy if you know the secret. Would you like to understand this? The pattern must be pinned on a folded or doubled edge of cloth instead of on a single one. Constance looked at the directions on the pattern, and read them and consulted the perforations. Do you know what they are? Hold

FIG. 117. — Julia Oakes and Edith Potter trying the pattern.

the pattern to the light. Do you see the little holes or perforations? How queerly they are arranged, some in straight rows and others in groups! Dorothy thought it was most puzzling. The description of the pattern tells about this secret. Let us learn to-day these two things, about patterns —

1. When to place the half piece of pattern on a folded edge, so as to cut the portion in one piece instead of in half a piece like the pattern.

2. How to discover which part of the pattern is to be placed on the warp threads of the cloth.

(1) For placing on warp.

Your directions on the pattern may say that the long line of single perforations is to be placed on the warp threads. Can you do that when you lay the pattern and cut? Do you see the long line of single perforations on the apron pattern? They mean that the slant of the pattern must be so arranged that the holes lie exactly on the warp threads, so you will have to find the warp and lay the piece carefully (Fig. 118).

(2) For cutting on a folded edge.

The directions may say the group of three perforations or holes at the edge of a piece means that that edge is to be placed on a straight folded edge of cloth. Yes, the belt will then be long enough to go around Edith, and the trimming for facing will be all in one. The apron will cover the dress because this direction of placing the perforations on the straight folded edge has been followed and the piece cut, through two thicknesses of cloth, all in one.

Isn't this interesting and just like a puzzle? Miss Ashley said she had known girls who forgot and placed the three dots on a single selvedge edge. What do you suppose happened then?

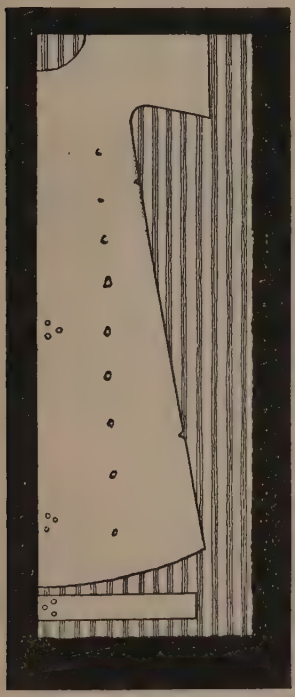

Fig. 118. — Laying the apron pattern on the cloth.

(3) Study each piece.

It is wise in using any pattern to study all the pieces first, as the girls did. The parts are often numbered. Can you see how? The description which goes with the pattern will tell the name of each piece. You know now that often only half a portion is given and what must be done when that occurs. It is wise, too, after learning the name of each piece, to hold it in place on the person to see if it is too large or too small. It will also help you to understand better about the cutting. Sometimes it is necessary to add to the length or to shorten the pattern or to change it in some other way, as we shall study later. Some patterns allow for seams, others do not. Always notice what the directions say. What difference will this make when you begin to cut?

The girls held their patterns up to each other and decided what should be done in regard to adding to

the length or shortening it. Now all understood the parts and were ready to cut. Half the class was practicing at the machines. All the tables were in use. Miss Ashley had very convenient boards for cutting placed on hinges just under the blackboards. They could be let down out of the way when not in use (Fig. 119).

III. Cutting out the aprons.

Miss Ashley said that in cutting out one must study the economical use of the cloth, and still obey all the directions for placing the pattern on the doubled fold or with the warp threads. The cloth was folded in half selvedge to selvedge and the triple perforations were placed on the lengthwise fold. Why? The trimming for facing was also laid on a lengthwise fold of the coral galatea and the belt laid on a crosswise fold. Why do you suppose this was done? The pocket was laid economically on the piece left under the arm of the apron at the narrowest part of the width.

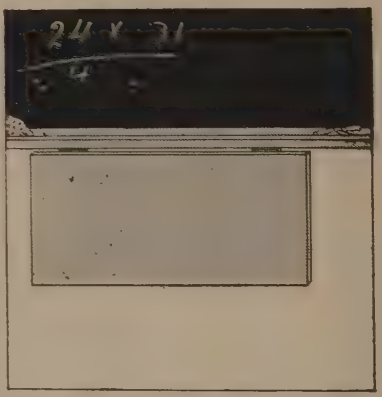

Fig. 119. — The convenient cutting boards which Miss Ashley had arranged on hinges below the blackboards.

1. How to allow for extra length or seams.

Some girls had to allow extra in length or for a hem and so made a light pencil mark three or four inches below the pattern in placing it, in order to remember to cut longer in length than the

pattern. Some had to fold the pattern in placing so as not to cut too long and waste cloth. If seams must be allowed, how far from the edge of the pattern should one cut? One must remember so many things in cutting! In placing a pattern always remember that as a rule the widest part of the pattern should be placed at the end of the cloth. This will be found most economical. The girls placed about six or eight pins in each part of the apron front and back.

Miss Ashley looked before they cut, to see that all were correct, and then showed them how to hold the shears to cut to best advantage. She gripped them firmly and took long, sharp cuts the whole length of the shears and close to the edge of the pattern, as seams were allowed. What do you suppose the tiny notches at the edge of the pattern are? Those help one in putting the garment together. Do not cut them, but mark with a pencil. Sometimes girls forget and cut out very large notches and spoil the garment. On the dark cloth the pencil marks or chalk will answer.

2. Careful cutting.

The girls then cut very carefully and followed Miss Ashley's directions by folding all the small pieces left and rolling them in a neat roll, to be placed in their workbags. The pieces will be needed for the caps. One should always save the scraps of material left from garments. Very often they may be needed for repairing, or as happened with the aprons, pieces left from other garments were utilized for trimmings. A drawer for pieces or a scrap bag is always useful.

Suggestions for Review

1. Select a pattern from the pile on your teacher's desk. Open it, and tell what the perforations mean.

2. Give some suggestions for using the same pattern and cutting most economically.

3. Try to cut an apron pattern for your sister's doll. Then cut the apron from it, remembering the perforations.

4. Tell what you would ask for if buying a shirt waist pattern for yourself; a dress for Constance Moore's sister, who is 12 years old.

Lesson 26

THE GIRLS THREAD AND USE THE MACHINES IN MAKING THE APRONS

Miss Ashley gave the girls some general directions for threading and running the machines. You will wish to know these, too, no matter what you expect to make, or the kind of machine you have. General rules apply to all. The girls begin to sew their aprons.

I. The sewing machine.

Do you know how many different makes of sewing machines there are on the market? The one invented by Mr. Howe has furnished the principles of construction for all since. Can you name some? Margaret Langley had a Domestic at her home, Dorothy a Singer, and some of the girls the New Home, or Willcox and Gibbs. A book of directions for threading it comes with every machine. There are a number of important points to remember in threading any machine. Try to think of these while studying the book. You will not find the directions difficult if you remember these general rules.

1. Kinds.

Points about Threading the Machine

1. Put the spool on the spool holder.

2. Try to locate all the holes and eyes through which the thread must pass. The book of directions will help you.

2. General rules for threading.

3. Find the tension and be sure that the thread passes between the tension plates and pulls evenly.

4. Thread the needle, which is in the needle bar, left to right, towards the wheel.

5. Find the shuttle, if it is a double thread machine, and learn to thread it. You may have to ask your teacher or mother to show you how.

6. Learn to put the shuttle back in the shuttle race.

7. Both threads on the two thread machine should be on the top before beginning to stitch. Hold the upper thread, which was passed through the needle; turn the wheel. The upper thread if held will catch the under thread and bring it up through the tiny hole in the needle plate.

8. Begin to practice stitching after all is threaded correctly. If you have not learned to treadle evenly your thread will break.

Remember these things while stitching:

1. Treadle evenly.

2. Turn the wheel in the proper direction so that the thread will not break.

3. General rules for practice in stitching.

3. Do not pull or push the material with

your left hand. Let it lie on the table of the machine under the left hand and pass it on lightly.

4. Practice stitching parallel rows. Make good square corners. Use some scraps of cloth for practice, both at school and at home.

5. In order to turn the corners evenly, have the needle down in the cloth. Raise the presser foot and turn the cloth. Put the foot down and continue.

Some of the Richards School girls cut out and basted part of their aprons while others practiced at the machines. Miss Ashley planned so that half of the class practiced during the first half of the lesson time, and the other the last half. Those who could practiced at home and received credit when they had demonstrated their ability.

II. Making the apron.

1. The first thing the girls did was to baste and stitch in place the trimming for bottom of sleeves and neck. It was laid flat on the wrong side of the apron and a seam of $\frac{1}{4}$ inch basted. Those who stitched well were permitted to stitch these seams and to remove the bastings. The trimming was then turned to the right side and the edges turned under $\frac{1}{4}$ inch and basted very neatly with small stitches. Then the girls stitched at the very edge of the trimming to make a neat finish.

1. The trimming facings are sewed.

2. The long seams of the apron under the arm were basted and stitched. A French seam was made. Do you know how? It is sewed twice because it makes

a very neat finish and prevents raveling. A plain seam is sewed only once and the edges are overcasted to prevent raveling. The French seam is basted on the right side of the apron or garment, not on the wrong as we have

2. French seams are made.

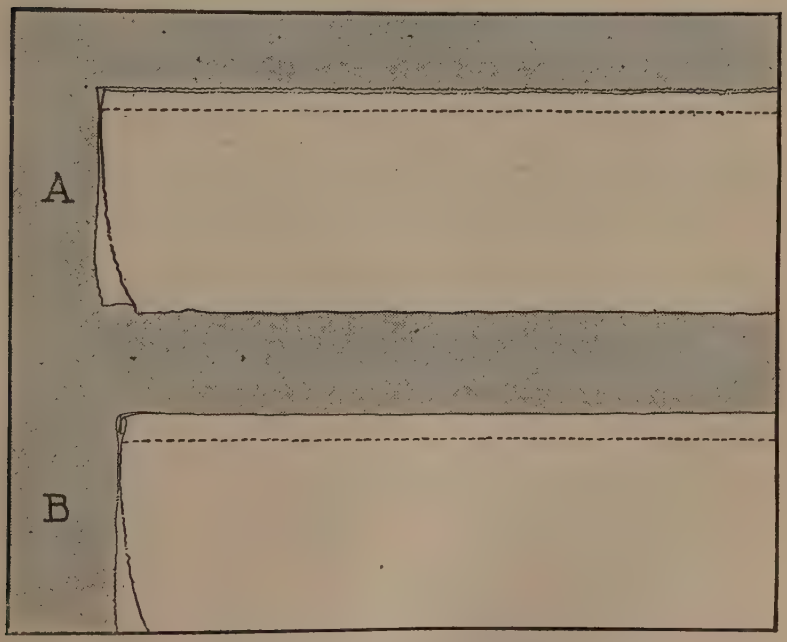

FIG. 120. — The French seam.

(*A*) First sewing, on the right side. (*B*) Second sewing, on the wrong side.

done. Then the seam is sewed close to the basting stitches. The girls used the machine with great care to keep straight lines. The French seam (Fig. 120) is used on handmade garments very often,

and then the first sewing is a row of tiny running stitches close to the basting. After the first sewing by machine or hand, the bastings should be removed and the edges trimmed to a $\frac{1}{8}$ inch seam. The girls did this very carefully. Then the apron or garment was turned to the wrong side and the seams pressed or pinched so that the sewing of the seam was exactly on top of the fold as it was pressed. Then the girls basted another seam of $\frac{1}{4}$ inch and stitched it neatly by machine, keeping exactly $\frac{1}{4}$ inch all the way. Both under arm seams of the apron were so finished and great care taken to have a good curve under the arm of the kimono sleeve. When this French seam is made on dainty underwear, the second sewing is made (Fig. 120) with two running stitches and a backstitch such as you used on your bags.

3. The girls then turned 1 inch hems to finish both sides of the backs of the aprons. The first turning to the wrong side was $\frac{1}{4}$ of an inch and the second, 1 inch. They basted and stitched these very neatly.

3. The apron backs are hemmed.

4. The hems at the bottom were next turned to the wrong side. The first turn was $\frac{1}{4}$ inch, the second allowance was of 3 inches for hem. The girls used a gauge (Fig. 121) for turning the hem. The picture shows what a

4. The bottom hems are turned with a gauge.

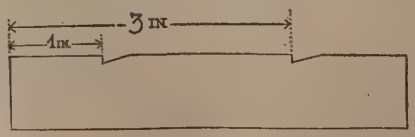

FIG. 121. — The gauge which the girls used in turning their hems.

gauge is like. They were made of cardboard and helped the girls to keep the deep hems exactly even. The girls were particular to place the seams on the seams as they turned and pinned, and to allow some tiny plaits as they basted the hem in place. Can you tell why this was necessary?

5. The edges of the belt were turned in $\frac{1}{4}$ inch on both sides as well as both ends, and folded and basted together. The belt was then stitched all around the edges. It was sewed in place at the hem of the apron back at the waistline, and a buttonhole and button were placed at the front of the belt where it crossed.

5. The belt is made.

6. Three buttonholes were made in the upper part of the apron back. The girls had practiced before on their workbags. (See page 166.)

6. The fastenings at back.

7. The pocket hem was turned, basted, and stitched. Then $\frac{1}{4}$ inch was turned on the other three sides and the pocket basted and stitched in place.

7. The pocket.

Such lovely work aprons were shown! Nearly all of the girls used the unbleached muslin with coral or blue galatea for trimming, but a few used the figured percale with white muslin for trimming. The girls had a variety of colors as some used for the trimmings pieces left from garments which their mothers had at home. Natalie Underwood made six aprons by machine at home. She sold three to her Aunt Molly and donated the others to the Red Cross sale.

Suggestions for Review

1. Practice threading the school machine whenever you have a few minutes to spare. If possible, practice at home.

2. Practice turning good square corners on mother's machine if you can. Learn to stitch very evenly and straightly.

3. Tell how French seams differ from plain seams. Where should they be used and why?

Lesson 27

The Girls Make Caps, Too

The girls all thought that caps were necessary for use while cleaning. Miss Ashley had a simple pattern and taught the girls how to trim them with bias facings.

You will see in the picture the pattern of the cap which the girls used (Fig. 122). If you also wish to make it, the dimensions for the ellipse should be about 12×8 inches, or slightly smaller or larger, in cutting. The bias strip for the casing for drawing up the cap is placed not exactly in the center, but towards one end of the elliptical-shaped piece. (Notice illustration.) Turn the edges of the bias strip in $\frac{1}{4}$ of an inch on both sides and baste in place on both edges, stretching the outer one slightly, and holding in the inner one a trifle. Small stitches will help. The

1. Making the cap.

I. The pattern for the cap.

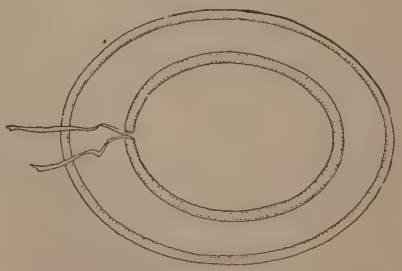

Fig. 122. — The pattern for the cap — before it is drawn to fit the head size.

ends of the strip should just meet at the center back, where they should be turned in $\frac{1}{4}$ inch and left open so that the casing string can be run in.

(*a*) The casing.

The edge of the cap is faced or bound with a bias strip 1 inch wide. It is basted to the right side and sewed with a $\frac{1}{4}$ inch seam. Then it is turned to the wrong side, $\frac{1}{4}$ inch is turned on the unsewed edge, and the bias turned so it just meets the stitches. It should then be basted and hemmed by hand or machine.

(*b*) The bias binding.

All will wish to know how to cut the bias strips. It is very simple if one knows the secret. You have studied about the warp threads, which are the strong ones running lengthwise of the material. Fold the cloth so that the warp threads lie exactly on the filling threads. The fold is a true bias edge. Cut through this folded edge evenly. Have you cut warp or filling threads? A true bias edge, you see, is really the diagonal of a square or a cut from corner to corner of the square as folded. To make 1 inch strips for bindings and facings or

2. How to cut a true bias binding.

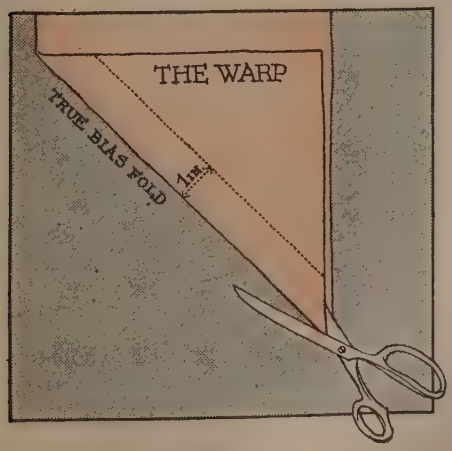

FIG. 123. — Can you learn to cut bias strips?

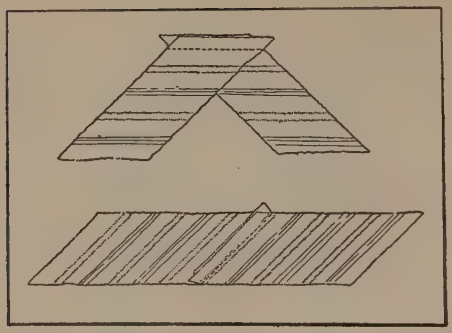

Fig. 124. — Margaret Langley asked Miss Ashley how to sew together the bias strips.

casings, measure at right angles to the folded edge you have cut. Make a dot and rule a light line which will be 1 inch from the cut edge (Fig. 123). Now you know how to make the bias strips for trimming. Margaret Langley asked how to join bias pieces, as her square of cloth was so small, and consequently her bias strips were short. The picture will show just how Miss Ashley taught her to cross the bias strips and sew them (Fig. 124). The girls made their trimmings of color to match their apron trimmings. How pretty and neat they will all look as they clean the Sunnyside apartment! Miss Ashley said that one could be neatly and appropriately dressed no matter what one was doing, and prettily attired, too.

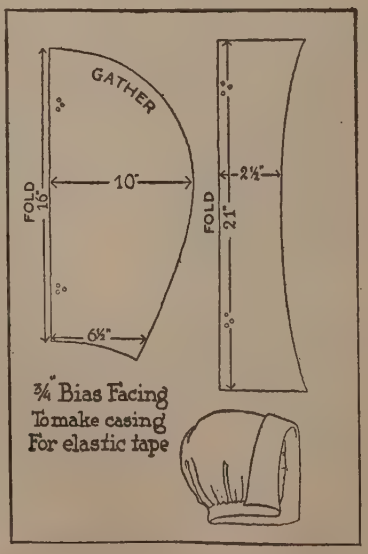

Fig. 125. — Another easy and attractive pattern for a cap.

Suggestions for Review

1. Show mother how you have learned to cut a true bias strip.
2. Try to join several bias pieces together to make a continuous strip.
3. Make a cap just like this for sister's doll if you have time.
4. Another cap pattern is shown in the picture (Fig. 125). Perhaps you would prefer to make it.

Lesson 28

Making a Simple Petticoat

Very near the Sunnyside apartment is an orphanage. Miss Alice, the matron in charge, says that some simple petticoats are needed for the little girls and asks the Sunnysiders to help. Have you ever made such a garment? Would you like to know how so you can make one for your sister or someone else? Simple petticoats are needed also by the American Red Cross to send to children of Belgium and France.

Miss Ashley had the supply of outing flannel and gingham which Miss Alice, the matron, had sent over. There was also some white muslin to be used for the belts.

I. The materials for the petticoats.

Miss Ashley had chosen a simple petticoat pattern (Fig. 126). The first thing she said was that the pattern must be carefully studied before being used. She had bought two, one an 8-year and the other a 10-year size as Miss Alice requested. One pattern was opened. How many pieces were there? One of the small girls of the class stood up while Dorothy held the pieces of the pattern where she thought

II. The pattern for the petticoat is studied.

they would belong in the skirt. Yes, the straight strip is the band. Is it long enough? We have learned that often only half of a portion is given. What are the other pieces? Yes, one is the back portion. The other piece must be the front. Do either of these cover all of the girl's skirt? No, only half the front piece from the middle front to the side and the back piece from the side to the middle back are given. What must be done in order to have a front all in one piece, or a back all in one? Study the directions on the pattern. Dorothy read them. Yes, the front has the group of perforations. What have you learned that they mean? What does the long row of single perforations mean? Perhaps your patterns are marked in some other way. Hold the pattern to the light and see. You will all know because you have learned what to do in laying the pattern on the cloth. The girls studied all the parts carefully. Miss Ashley said that she wished to teach the girls about taking measurements

FIG. 126. — The petticoat chosen for the children at the orphanage.

and also how to alter the skirt pattern in case they made other skirts at home for members of their families. She said that by knowing these things one can judge whether a pattern is too large or too small. Knowing how to take the measure is also an aid in ordering by mail if it is necessary to do so (Fig. 127).

FIG. 127. — Did you ever try to take measurements?

III. Taking some simple measurements.

The skirt measures are taken from the waistline to the floor, at the front, back, and at the sides over the hip. Then one deducts from this measure the length of the skirt from the floor.

The waist measure for girls should not be snug. It is taken around the smallest part of the waist.

The bust measure, too, is easy to take. The tapeline is passed under the arms and over the fullest part of the bust, not too tight a measure. Pass the measure to the center of the back, sloping the tape slightly upward between the shoulder blades.

Sometimes one orders a skirt or other pattern and finds it to be too long or too short. Miss Ashley told the girls how to alter such a pattern. This was because Constance was making a skirt at home and asked the

question. Miss Ashley said that often the good flare of the skirt is spoiled because it is cut off and shortened at the bottom. The better way, instead of cutting it off at the bottom, is to make a plait of one inch or more in the middle of the pattern, and crease and pin it before laying it on the cloth. In this way the good line at the bottom flare of the skirt is saved. Do you know what flare means? Have you ever heard the name of these skirt portions which are wider at the bottom than at the top? Do you know why a gore is made that shape? Try to think of the advantages. When one uses a skirt pattern in which a plait has been pinned to shorten and preserve the good flare, one must be careful to carry the outline of the pattern evenly at the place where the fold of the plait is made (Fig. 128).

IV. Some simple directions for altering skirt patterns.

1. To shorten the skirt pattern.

Another way to lengthen a skirt pattern, besides

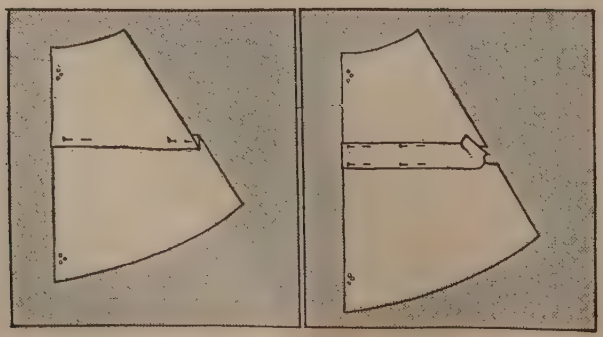

Fig. 128. — A pattern may be shortened or lengthened.

adding to it at the bottom, is to make a straight cut across the middle of the gore from side to side. Paste or pin a piece of paper of the extra length desired between the two pieces of the pattern at the cut. This preserves the same flare at the bottom and does not increase the width of the skirt.

2. To lengthen the skirt pattern.

Miss Ashley told the girls to place the patterns carefully and if necessary to increase or shorten the length of the skirt pieces. Half of the class were to make skirts of 24-inch waist and 15-inch length finished, and the others 22-inch waist and 17-inch length finished. The hems were to be 3 inches wide finished. How much material do you think the girls needed? Miss Ashley told them to study carefully the economical use of material. The outing flannel and gingham were one yard wide. By folding the material selvedge to selvedge and placing the triple perforations on a fold as directed, the front was cut all in one piece. It is a rather circular gore; see the picture of the pattern. Not all gores are of the same shape. Do you know why? Try to find gores of various shapes in dresses and other garments. The two back gores of the skirt were cut from another width. The girls obeyed carefully the directions for placing the perforations on the warp, and marked the extra allowance for hems. The seams were allowed in the pattern. Do you think that the pattern could be placed so as to save some length of material? All

V. Placing the skirt pattern so as not to waste material.

the pieces of the pattern were laid on the cloth carefully, on a flat surface, before any cutting was done. Alice Alden remembered to place the wide end of the gore at the end of the piece of cloth to cut most economically. Miss Ashley had spoken of this when the girls were cutting out their aprons. The notches were marked with pencil marks. Sometimes one must use chalk or basting thread on dark cloth. The girls cut carefully with long, even cuts just at the edges as directed.

The skirts were simple and so were easily made. Miss Ashley said that they were to have plain seams, overcasted. This is how the girls made them:

VI. Making the petticoats.

1. The two back portions were pinned to the front gore, and all the notches matched. The gores were even at the top.

2. The gores were basted together with $\frac{1}{2}$ inch seams, beginning at the bottom. Do you know why?

3. The seams were basted and stitched on the wrong side, and overcasted evenly. (See Fig. 87.) The two edges of the seams were overcasted together. The back seam at center back was left open 5 inches at the top for the placket.

4. The hem was turned and basted at the bottom, the same way the apron hem was turned; $\frac{1}{4}$ inch was allowed for the first turn, and 3 inches for the second. Some girls hemmed this hem by hand, others used a decorative stitch to hold it. (See Fig. 140 for feather stitch.)

5. The placket opening was finished next. On the right side of the opening make a $\frac{1}{2}$ inch hem, the first turn $\frac{1}{8}$ inch, and the second $\frac{1}{2}$ inch. Turn hems to inside of skirt. Baste and hem by hand. On the left of the opening the placket was finished with a 1 inch hem, first turning $\frac{1}{8}$ inch, second turning 1 inch. The 1 inch hem was lapped over the half inch and stitched across at the bottom to hold securely (Fig. 129).

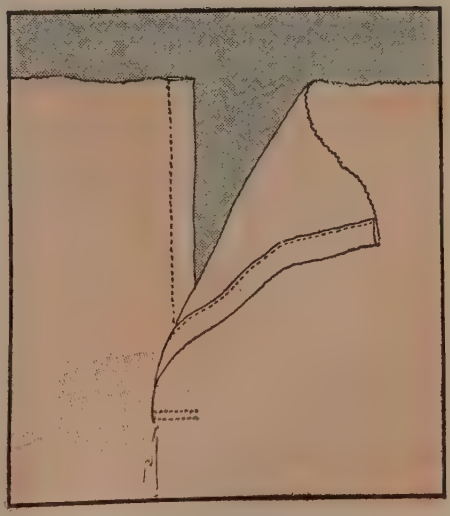

Fig. 129. — A hemmed placket facing.

6. The skirt was then ready for the band.

A. Cut the band according to waist measure; add to it 1 inch for lappings and 2 inches for the turnings, 1 inch at each end of band. Cut band lengthwise of the muslin, with the warp threads, and twice the desired width finished plus $\frac{1}{2}$ inch for turnings on the width. The width of band finished was to be $1\frac{1}{4}$ inches.

B. Gather the petticoat $\frac{1}{4}$ inch from edge, with two gathering threads one below the other. Divide the skirt in half; gather from center front to the back at right side, and from center front to back at left side.

C. Turn in ends of band 1 inch. Pin the center of band to the center front of petticoat, right side of band to right side of petticoat. Pin so that the edge of the band is even with the gathered edge of skirt portion. Pin ends of the band to the gathered back portions of the skirt, with ends of band to ends of gathers. Turn gathers towards worker, and distribute evenly. There will not be many gathers toward the center front. Baste $\frac{1}{4}$ inch from edge of the band, and between the two rows of gathering stitches. Stitch by machine. Turn band over to wrong side. Turn in $\frac{1}{4}$ inch. Baste and hem flat by hand or machine. Overhand the turned-in ends of the band neatly, and make buttonholes in band as desired at front, back, and sides if attached to a waist.

Suggestions for Review

1. Examine other patterns of skirts or petticoats. Are the parts the same shape?
2. What is meant by a gore? Why are gores of different shape?
3. Make two skirt patterns for sister's doll, one with a scant flare at the bottom, and the other rather full. Choose one for the skirt to be made.
4. Describe some economical ways of laying the skirt pattern on the cloth.

CHAPTER III

THE SALE FOR THE RED CROSS

The girls make some articles for the Red Cross Christmas Sale.

The girls of the Ellen H. Richards School planned for a sale at Christmas time. The money raised was to be used for the Red Cross fund. All the girls were on committees, some for preparation of cakes and candy, and others for decoration and arrangement of tables. Such a busy lot of girls! For several months all had been planning and sewing for the sale. The mothers and grandmothers, too, had been helping, and the girls learned to make many useful articles suitable for such a sale or for simple Christmas gifts. Many of the things were made from silk scraps or pieces found in mother's or grandmother's piece bag. The girls of the Richards School discovered that giving is great fun, especially when one plans a surprise. It is not the cost of the gift which counts, but the loving thought which one puts into it. Have you ever planned a

surprise cake or a pudding, a workbag, an apron, or something else for someone you love? It is into such things that we can put loving thought, too. Sometimes we receive gifts into which no loving thought has been put. Have you ever had such a gift? How much happier one feels when the thought is expressed, too. Who wrote "The gift without the giver is bare"? Have you thought about this in giving gifts or service of any kind?

Miss Ashley asked the girls to bring some samples or any scraps of silk which they had at home, also suggestions for articles for the sale, or for gifts. Everybody desired to help. Some materials had to be bought, but Miss Ashley's pieces and many of those brought in by the girls were large enough to be of use. Miss Ashley said that they would study also about silk and how it is made into cloth and thread. It is a wonderful story, and you will wish to know it, too.

Lesson 29

THE STORY OF THE BUSY SILKWORM

Have you ever wondered who made the silk hair ribbon which you wear, or your gloves or neckties, or mother's silk dress? The story is one which you will all wish to hear. Do you know how the tiny worm makes the silk fiber? We are to study about it to-day.

I. The leading countries producing silk.

In studying your geography lesson you have learned that Japan and China produce more silk than any other countries of the world. Did you ever stop to wonder how? You

know that Italy and France and Asia Minor also grow silk. These are warm countries.

Silk is the strongest and most beautiful of all the common fibers which we use; it is also the most costly. The tiny worms which are raised in these countries work very busily. Each often produces four thousand feet of silk in length. Do you know how? The United States does not produce much silk. Can you think why? Perhaps by the time we have finished our study you can answer this question.

Did you ever see a silkworm? You have seen caterpillars, I know, and perhaps watched them make their cocoons or houses. In the picture you will see some silkworms. Once upon a time the mothers and fathers of these worms were lovely moths (Fig. 130). The mother moth lays the eggs and cares for them, for she knows that the tiny eggs, as small as pinheads, are soon to be little worms and will need food. So she lays them on the mulberry leaves. Do you know if mulberry trees

1. The silk moth lays the eggs which become worms.

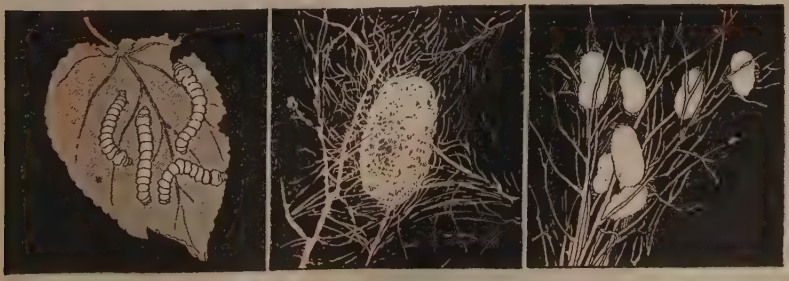

FIG. 130. — The silkworms feed on the mulberry leaves until they are large and ready to spin.

are grown in the United States? The little pinhead eggs are very small and must be kept warm in order to turn into worms (Fig. 131). Do you know how the mother hen keeps her eggs warm until the chicks break their shells? The mother moth lays them so that the sun can do this and the warmth hatches them. My, what tiny worms appear, just like little threads; but they eat and eat and grow and grow until they are as thick around as your thumb and about three inches long. All the time that the worm is growing, or about one month, it is tended very carefully, for it will not be strong and well and able to do its work of making silk unless it is kept very clean and has the right kind of food to eat. This is true of children and people, too, if they are to grow well and do their work. While the worms are growing they are watched very carefully and their food chopped very fine and prepared so they will grow. The Japanese and Chinese girls and men do this because labor in those countries is very cheap and the worms require good care.

(a) The warmth hatches the tiny eggs.

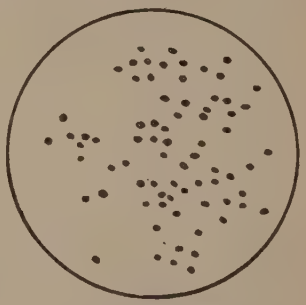

FIG. 131. — These eggs like pinheads grow into tiny worms, then into large worms.

2. When full grown the worms begin to make their cocoons.

Now the worm when full grown begins his busy life just as boys and girls do when grown. The first thing the worm does is to make a house called a cocoon. If you live near the

country or have trees in your town or back yard, see if you can find some cocoons. Miss Ashley sent to one of the silk companies of the East for some cocoons of the silkworm. The United States government, Department of Agriculture, also sent her some. Margaret Langley and Edith Potter, who lived out of town a short distance, brought in a large green worm. They put it into a box and it spun a cocoon. It was the worm of the Luna moth, which soon appeared. We find the Luna moths growing wild in the United States, but not the mulberry or silkworm. It grows wild, though, in some countries.

This is how the worm makes her house or cocoon. She begins to spin and throws out tiny threads, one from each side of her head. What a wonderful thing Nature has taught the worm to do! These tiny threads from the head harden as they come in contact with the air, for they are a jelly-like fluid or secretion from the worm's head. As her head is thrown or worked from side to side, these two filaments or threads become one, so the worm works and throws her head until the house of silk is built of these tiny threads glued together in a mass like a piece of parchment paper. The outside of the house is covered with the loose fluffy silk by which the worm attaches herself to a leaf or branch. The houses of the silkworm are white or yellow in color and about $1\frac{1}{2}$ inches long. The worm takes three weeks to make this continuous thread which is called her cocoon.

(*a*) The way the worm works.

Something very wonderful is going on inside the cocoon. The worm is changing into a moth like the mother or father moth and is getting ready to leave the house by eating her way out through the silk and flying away. Do you know what happens to the long silk thread when the moth eats a hole in the cocoon? Yes, the long, continuous thread is spoiled and cut into small lengths. Do you know how this is prevented sometimes? The moths are not allowed to come out and break the thread, but are put in a very hot place so that they die inside. Then the long thread can be taken off the cocoon all in one continuous piece. Often the moths are permitted to eat their way out, because if they did not and find their mates, there would be no eggs laid by the mother moths and no silk would be produced (Fig. 131). So the story would not begin all over again. The broken cocoons are not wasted but are used in a different way, although the silk made from them is not so strong as that from the long, continuous pieces.

The cocoons are reeled or the silk is taken from them. This is done by placing them in a basin of hot water to soften the gummy secretion (Fig. 132). The ends of four or five cocoons are caught together and reeled or wound off. This makes a strand of raw silk. Miss Ashley showed the girls some cocoons which had been sent to her by a silk manufacturer and which she kept in the exhibit case.

3. The cocoons are reeled.

Have you ever read the story of how the silkworm hap-

pened to be used in this way and the long thread of silk from the cocoon utilized? Edith Potter had attended a lecture at the Y. W. C. A. which she said was most interesting. She repeated the story to her class.

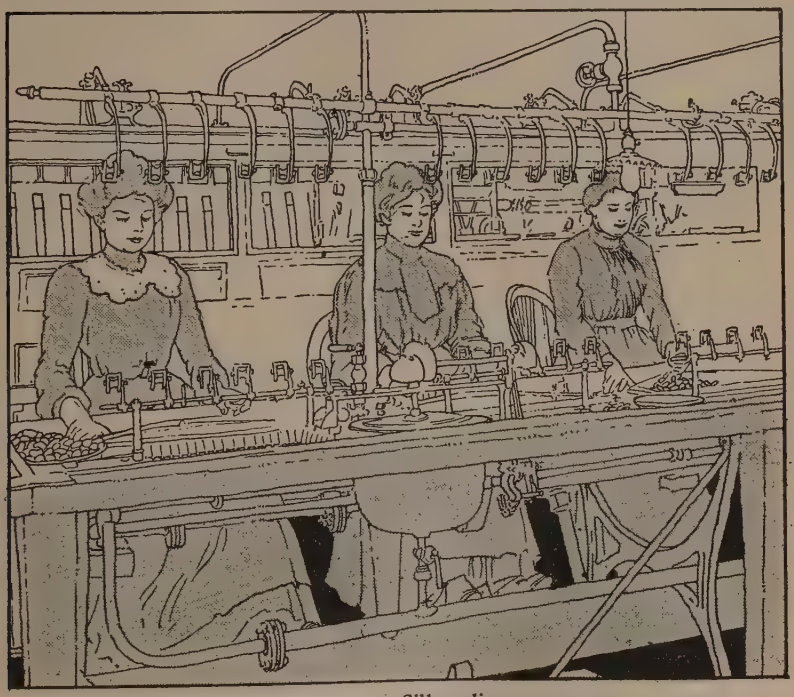

Fig. 132. — Silk reeling.

Long ago, in China, about 2700 years before the birth of Christ, an empress discovered how to use the beautiful fibers of the silkworm. Perhaps she saw the worms spinning and watched them. This discovery was very valuable, for

4. The history of the discovery of the value of the silkworm.

it added untold riches to her country. The people of China kept this a secret for a long time, but later some monks traveling east to India, Constantinople, and other places told about the reeling of the silk fiber. Since then silk manufacture has grown in importance, for its use spread to Greece and Italy and Spain and we know that in the fourteenth century it was very common in France. From France the secret was carried to other places. Every year in April the Chinese people have a celebration in honor of the wonderful empress who by her discovery added so greatly to the wealth of the world.

Do you think you can trace on your wall map this journey eastward of silk culture? Edith Potter did. Did she trace as far as the United States, do you think?

Miss Ashley had some hanks of raw silk which had been sent to her from Japan. As the cocoons are wound off on swifts they are made up into hanks like worsted. Silk in hanks is sold by the pound and costs from $7 to $10. Think of how many worms are kept busy spinning to make your silk ribbons, ties, and dresses! It takes three thousand silkworms to spin one pound of raw silk. Sometimes two or three pounds of raw silk are used in making one dress.

5. Raw silk is reeled into hanks for shipping to other countries.

We have studied about two fibers which are used for clothing, cotton and silk. Which is more expensive? Cotton is sometimes made to look like silk. This process is called mercerization, which means that the

cotton is soaked in chemicals and stretched until it looks silky. So we know of a useful little animal and a valuable plant which give us clothing to wear. Some day we shall study how the hanks of raw silk are made into silk cloth.

Suggestions for Review

1. Write a story of the life of the silkworm from the tiny egg to the mother moth who lays more tiny eggs.
2. Tell about the reeling of the silk into hanks from the cocoons.
3. Tell mother about the empress who discovered the value of the silkworm.

Lesson 30

The Girls Study the Silks Brought In

Many lovely silk pieces were brought to school — beautiful colors and a great variety. Before making the articles the girls study about the many kinds of silks. Do you know the different names?

Miss Ashley placed all the pieces on the table for the girls to examine (Fig. 133). Such a variety, some were soft, some stiff, some light, and some heavy, and they had so many different names! There were several samples of the plain one. Yes, its name is *taffeta*. It is a plain weave and plain in color, red, white, and black, and the same on both sides. However, it is sometimes woven with a figure or printed with a figure. Do you know the difference? The next piece Miss Ashley held up was a *foulard*. It had a printed design. Can you

I. Many kinds of silks, different in appearance, weave, name, and cost.

see the difference from the taffeta? Both of these silks are used for dresses, and taffeta for linings, petticoats, and other purposes. Taffeta costs from $1.50 to $3.50 a yard, and is woven 21 inches and wider. It is never wise to buy a cheap taffeta, for it will not wear. Miss Ashley wore her foulard dress to school that day for the girls to see. Foulard can be bought for about the same price as taffeta and is about 24 to 36 inches wide.

1. Taffeta.

2. Foulard.

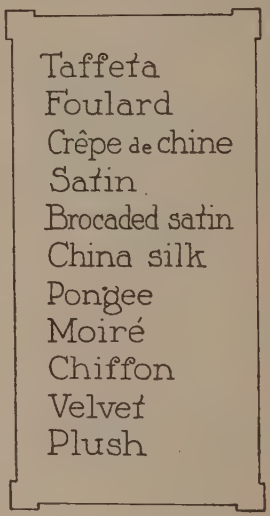

Fig. 133. — The names of some of the silks the girls learned about.

Dorothy Vincent had brought in some soft, crinkly looking silks, white, black, and light blue pieces left from dresses made at home. Yes, the name is *crêpe de chine*. It is used for dresses, and the light colors sometimes for underwear. How soft and lustrous it is! It is woven 22 inches and wider and costs $1.50 up. It can be bought sometimes with printed designs. Miss Ashley said that she hoped to have a full collection of the most common silks mounted for her catalogue box. A committee was appointed to take charge of silks.

3. Crêpe de chine.

The next piece Miss Ashley held up and pinned to the screen was smooth and shiny on the right side. All the girls knew its name. Yes, *satin*

4. Satin.

is correct. Do you know that that is also the name of the weave? It is woven in such a way that most of the filling thread lies on the right side, that is, it goes over several threads and under one. You can try this on the school loom. In table or damask linen we have the smooth satin weave. Look at a piece of table linen and compare the smooth part with the satin. Some cottons, too, are woven with the satin weave. Satin is sometimes made of a combination of linen and silk or cotton and silk. It is then less expensive. The filling thread is made of the silk to give the smooth surface appearance. Satins cost from $2 to $20 per yard, if very beautiful, and are woven from 21 to 54 inches wide. Do you know the use of satin? Yes, it is used for linings, dresses, trimmings, fancy boxes, and many other useful purposes.

Miss Ashley pinned up another figured silk which looks somewhat like table linen, only it was made of silk. It is called *brocaded satin*. It is used for the same purposes as plain satin, also for furniture coverings and hangings in beautiful rooms. Materials with such complicated patterns are made on a loom called a Jacquard, as are table damask linens also. This loom is able to make very lovely patterns because of its wonderful mechanism. The perforated cards above the loom effect the pattern. We shall study later about it (Fig. 155).

5. Brocaded satin.

The soft white piece is *China silk*. Mrs. Edwards sent over a piece left from Dorothy's bonnet. It is a

plain weave. Many China silks are still woven by hand in China. A good quality costs $2 per yard and is woven 24 inches wide. It is very durable, and is used for dresses, waists, and underwear.

6. China silk.

The piece which Miss Ashley showed next was one with which the girls were well acquainted. Mrs. Edwards had a dress made of it! It also originated in China, and is called *pongee*. It is soft and is ecru in color. It is woven 27 inches wide and costs $1 a yard up. This piece was $1.50 per yard. The real Chinese pongee is hand woven and is made from the cocoons of wild silkworms.

7. Pongee.

The next was a piece of Miss Ashley's grandmother's dress. It was marked in a watery pattern. It is called *moiré* silk and is used for dresses and trimmings. It is expensive, for a good piece will cost at least $3 per yard and is 22 inches in width. The silk is pressed between hot rollers which are stamped with a pattern to give the watery effect.

8. Moiré.

Fig. 134. — Some of the gowns worn by our great-grandmothers were made of heavy moiré silk.

Miss Ashley showed next a piece of the trimming of her grandmother's moiré gown (Fig. 134). Yes, everyone knows, it is called *velvet*. Some velvets are made from all silk and some from a mixture of silk and linen or cotton. Silk velvet

9. Velvet.

is expensive and costs $10 a yard and often more. Some silk velvet can be bought for $4 or $5 a yard. It is woven 18–42 inches wide. Do you see the tiny ends standing up which make it so thick? Little loops of filling thread are made in weaving and after weaving these are cut to form the little ends or pile. Some carpets are woven in the same way to form a thick pile. The warp of the velvet is sometimes cotton or linen. There was another thick piece with a longer pile than velvet, called *plush*. There are cotton plushes made, too. Grandmother Edwards had a winter coat made of plush which she said would never wear out.

10. Plush.

Miss Ashley held up her motor veil. Yes, it is silk also. It is called *chiffon*. It is used for other purposes, too,— dresses, hats, and trimmings. It is light and thin and gauzy and made in both plain colors and figures. It is woven 46 inches wide, and costs from $2 to $5 per yard.

11. Chiffon.

The Sunnyside girls were delighted to become acquainted with this new family of silks and were anxious to study how they are woven from the raw silk. The committee in charge mounted and catalogued them very neatly. See how many of these you can collect and how many you can add to your school piece bag. The Sunnysiders were very fortunate, for one of the girls had an uncle who was salesman for a large silk company. He gave them some very generous samples and a great variety, too.

Suggestions for Review

1. Hunt in mother's or grandmother's piece bag. Try to find a sample of each of the materials studied.
2. Choose one of the materials studied and get all the information possible from the school library books about its manufacture.
3. Give some suggestions in relation to buying taffeta.

Lesson 31

THE GIRLS USE THE SILK SCRAPS

Miss Ashley and the girls had all brought some articles as suggestions for the sale. Many were made of silk and some of other materials. Some were decorated with fancy stitches and others were sewed with the plain ones. Which one of the articles will you make for Christmas or birthday gifts or for your Red Cross school sale?

Would you like to have the directions for some of the gifts made? If you look at the pictures and follow the directions carefully, you will have no difficulty (Fig. 135).

I. Some gifts described.

1. A pin case.

Cut two ellipses from cardboard, 4 inches long and about 2 inches at the widest part. Cut two pieces of silk so they will be $\frac{1}{2}$ inch larger than the cardboard all around. About $\frac{1}{4}$ inch from the edge, with

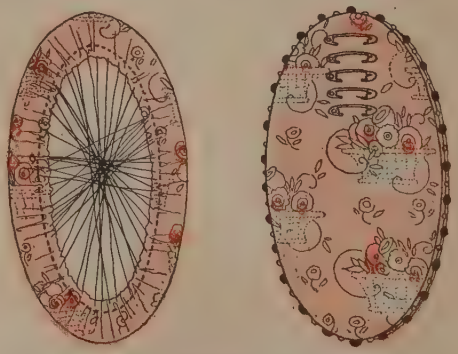

Fig. 135. — The method used in covering the pincase.

double thread, make a row of gathering stitches; slip the cardboard within and draw up the silk around the card. Now crisscross with your thread through the edges of the material until all is held firmly. Cover both cards. Then hold the two together, and very neatly overhand with silk thread of a color to match. Tiny stitches should be taken. Put in a row of pins close together around the edges. A pretty decoration can be made by working a design or an initial on the silk if it is a plain color. This can be done with chain stitch or featherstitch, before the cover is put over the cardboard.

In the picture (Fig. 136) notice the other cases. They are made exactly like the pincase, but of circles or of pieces of different shape. Cases for doilies can be made of two large circles 12 inches in diameter. The circles can be tied together with ribbon and the

FIG. 136. — Several other useful cases made from the covered disks.

doilies placed to lie flat between. The case for darning thread is also very useful.

This will be easy if you have learned to cover the ellipses well and to overhand neatly, for the case is really made of two pincases with a strip of stiff belting sewed between (Fig. 137). Cut

2. A new sewing case.

the ellipses 4 inches long by 2 inches wide just as you did for the pincase. Cover neatly with scraps of plain silk which match the belting. A yard of belting will

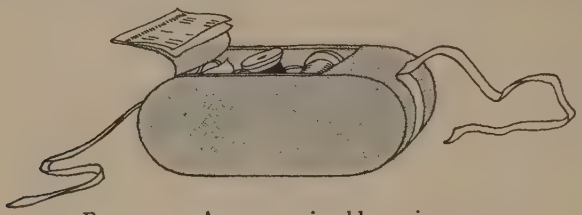

Fig. 137. — A very serviceable sewing case.

make three cases. The two inch wide belting makes the prettiest case. Hem one end of the belting with $\frac{1}{4}$ inch hem. At the other end two pieces of flannel are placed for a needlecase. Cut the flannel pieces $2 \times 2\frac{1}{2}$ inches and $2 \times 2\frac{1}{4}$ inches. Blanket stitch the edges (Fig. 75). Place these pieces on top of each other and at the unhemmed end of the belting. Hem the end over them with a $\frac{1}{4}$-inch hem to hold securely. Overhand the belting neatly to the two side ellipses, leaving an opening of $1\frac{1}{2}$ inches on top. One yard of satin ribbon $\frac{1}{2}$ inch wide is used to close the case. Pass it under the case over the belting and overhand to the belting at each end as shown in the picture. This can be crossed and tied around the case when traveling. The case can be equipped with thimble, bodkin, tiny emery, a spool of black silk, a spool of 50 white cotton, a few useful buttons, and a paper of 5–10 needles. It makes a most useful companion and a very satisfactory gift.

Miss Ashley prized her workbag, as one of her nieces had given it to her for a Christmas gift. Susan was twelve years old and had made the bag very neatly (Fig. 138). It was made of a lovely piece of pink flowered ribbon, 8 inches wide. One half a yard is enough. Perhaps you would like to copy this. If you wish, instead of ribbon, use a strip of silk $8\frac{1}{4}$ inches

3. A workbag.

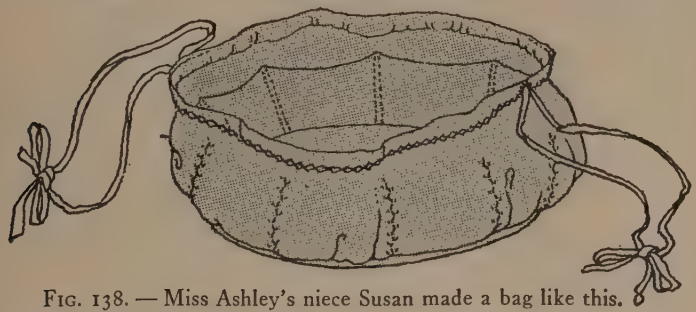

Fig. 138. — Miss Ashley's niece Susan made a bag like this.

wide by 14 inches long. Four inches of the half yard of ribbon will be used for covering the bottom disks.

(*a*) Directions for making.

1. Cut two circles of cardboard 3 inches in diameter. Cover in the same way as you covered the pincase. This is the bottom of the bag.

2. Seam the two ends of the 14 inch strip together with two runs and backstitch (see Fig. 73). Open seams flat. Turn along one long edge, $1\frac{1}{2}$ inches if selvedge of ribbon; if made of silk, make two turns, first $\frac{1}{8}$ inch, second $1\frac{1}{2}$ inches. Baste and hold with featherstitch (see Fig. 140) or chain stitch (see Fig. 139). At seam of bag, open seam carefully $\frac{1}{4}$ inch on the right side for casing hole for ribbon. At the opposite side,

work a small buttonhole (see Fig. 138) $\frac{3}{8}$ inch in length. This will be the top of the bag, and the two ribbons are to be run through the casing so it will draw up.

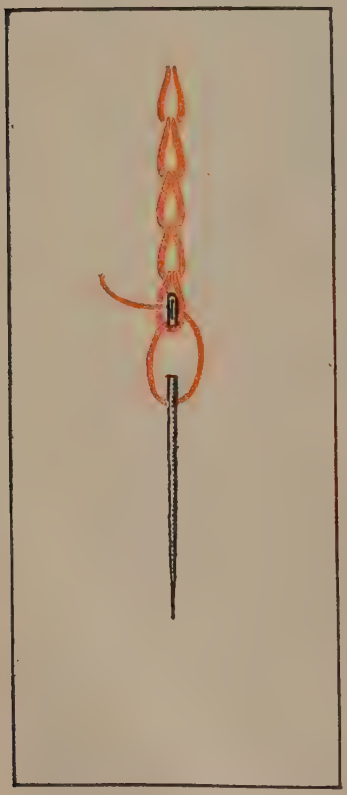

Fig. 139. — The chain stitch.

3. At the other edge of the long strip, fold to the wrong side: first 2 inches of the strip, and then the 2 inches folded over itself. Baste carefully. This fold is to form pockets on the inside of the bag. Every 2 inches along length of strip, mark with a pin; and on the right side of bag, featherstitch or chain-stitch in rows 2 inches deep, to form pockets on the inside of the strip.

4. Gather the edge of the strip to be sewed to the covered disks. Divide gathers in half. Pin to disk. Overhand to disk with close stitches on the inside of bag.

This workbag makes a very useful gift. It can be equipped with a pair of small scissors, emery, needles, and spools of silk placed in the pockets. The ribbon for drawing up the top is in two pieces, $\frac{1}{2}$ yard in each. Start one piece from one side and run

around casing until it comes out at the same place it started. Tie in bow. Start other ribbon at opposite side, and run it all around casing until it returns to the same side it started from. Tie with bow.

The girls all wished to learn the chain stitch or featherstitch for use on the bag and some of the other articles. Would you like to learn to make them, too? The featherstitch is very useful for dresses for baby, for underwear, aprons, or decoration on bags and other articles. Miss Ashley gave these directions for making several of the pretty stitches. The girls all practiced first on some scraps of old cloth before using any of them on their gifts or articles for the sale. Here are the directions just as Miss Ashley gave them:

(*b*) **Some useful fancy stitches.**

The chain stitch is easy to learn. Begin with a knot. Pass the thread from the under side up. Throw the thread so as to make an O (see Fig. 139). Put the needle into the hole where thread came through and make a stitch about $\frac{1}{8}$ inch long. Hold the cloth over the fingers with the thumb on top. The needle should be pointed towards the worker, and the point of the needle should be brought up through the little round O. Care must be taken in pulling the thread through to have the loop of thread lying flat on the cloth. The length of stitch should be uniform. What does uniform mean? The outline of an initial or any drawn design can be followed with this stitch.

(1) The chain stitch.

The featherstitch is very beautiful when made small and even. It can be varied by making one or two

stitches on each side of a center line. The length of the stitches and the slant always affect the appearance. In practicing the featherstitch draw a pencil line on your cloth as a guide. The stitches are slanting and are taken towards this line. This stitch is used for decoration in the same way as the chain stitch.

(2) The feather-stitch.

The single featherstitch (Fig. 140). Hold the work over the finger with thumb on top of cloth. Work towards you. Start with knot on under side of pencil line. Draw thread through to right side. Lay thread on the pencil line and hold with thumb. To right of thread near beginning take a small $\frac{1}{8}$ inch slanting stitch towards the line of thread. Draw the needle through over the loop of thread. Have it loose and lying flat. For the second stitch, hold thread again on the pencil mark. Throw thread for next stitch on the left of the line. Take slanting stitch towards center line. Draw needle up through the loop, which should lie flat. The next stitch is taken to the right of the center line directly under the stitch above it, and should be the same length and slant. The beauty of this stitch depends on its evenness. A striped material makes a good practice piece. After the stitch is learned, it is easy to make it on plain cloth; but one must then keep constantly in mind an imaginary center line. This is a very useful stitch for finishing hems instead of using the hemming stitch. The featherstitch is often a straight stitch instead of a slanting one. It is taken each side of

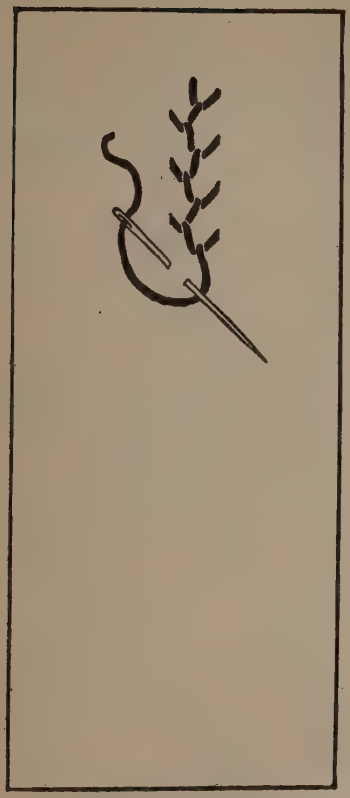

FIG. 140. — The single featherstitch.

FIG. 140. — The double featherstitch.

the imaginary center line in the same way as the slanting one, but the needle is pointed straight.

The outline stitch. This is another easy stitch (Fig. 141) which every girl should learn. It can be used instead of the chain or featherstitch as decoration. It outlines, or follows, the design, and so

(3) The outline stitch.

gets its name. The stitch is taken on the line and is worked from left to right. Care must be taken to have the stitches all the same length and to throw the thread in one direction either away from or towards the worker. The pretty effect will be spoiled if there is a variation. Away from the worker makes a neat effect. Begin with knot. Draw needle to right side on the line. Throw thread away from worker; take a small back-stitch on the line, needle pointing towards the worker. This will make a long thread on the surface and the short stitch beneath. The effect is much prettier when the stitches are taken close together.

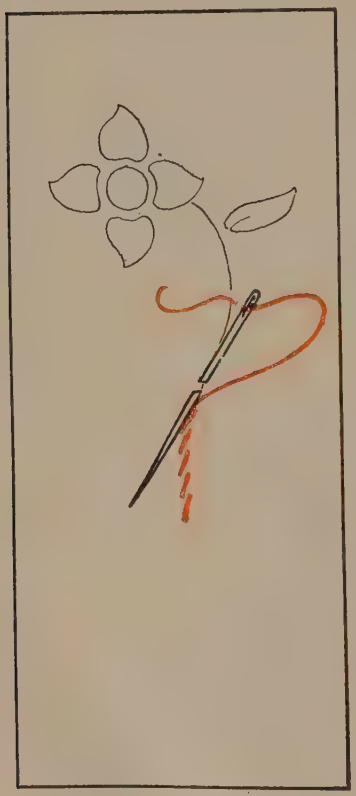

FIG. 141. — The outline stitch.

4. A vegetable bag. Mrs. John Edwards sent over her vegetable bag for the girls to see. It was made of linen and on the outside the word "Lettuce" was outlined in blue cotton. Mrs. Edwards found it very useful. When the lettuce came from the store she washed it carefully, dried it, and put it in the vegetable bag to

cool on the ice. Parsley was also put in a smaller bag marked "Parsley." These vegetables were kept fresh, cool, and crisp, as they should be served, and did not scatter about the ice box (Fig. 142). This is how the bag is made:

A piece of rather heavy white linen or cotton duck or galatea will do. Perhaps some of the girls will have pieces left. Cut 36 inches long × 10 inches wide. Fold and crease. On one side write the word lettuce and outline according to directions, page 248 (Fig. 141). Seam the bag with French seams (Fig. 120). Turn hem at top, $2\frac{1}{2}$ inches deep. Run tape through the hem or sew casing $\frac{3}{4}$ inch above hem with running stitches. A tape is run in and buttonholes made on the outside of the casing just as the girls planned for the workbag (Fig. 138). The tape is run in by opposites, in the same way as for the workbag.

FIG. 142. — Mrs. Edwards keeps lettuce and parsley in this clean way.

Which of these things will you choose to make for a gift or for the sale?

SUGGESTIONS FOR REVIEW

1. Bring to school other suggestions for gifts.
2. Describe in writing how to make the article you suggest.

Lesson 32

THE GIRLS LEARN TO USE SOME NEW STITCHES

Plans are made to have a utility table of useful household articles. The girls learn to make some and also some new stitches. Would you like to learn them, too?

Miss Ashley had some hemstitched towels, also a lovely table scarf with hemstitched ends. In the picture you will see how they were made (Fig. 143). There was also a small traveling case of huckaback linen to hold wash cloths of cheesecloth which Mrs. Edwards sent in for all to see. This was very useful and some of the girls decided to make it. Miss Ashley taught them the two new stitches which appear on these articles, and then the girls chose the article preferred. All knew how to make the cross-stitch. This is how the hemstitch and the catch stitch are made.

I. Two useful new stitches.

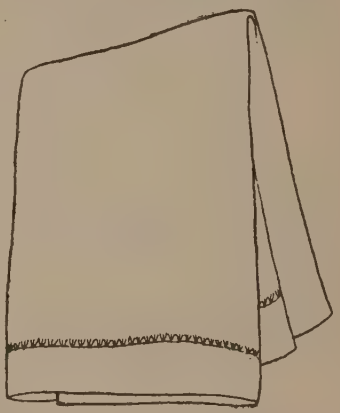

Fig. 143. — One of Miss Ashley's hemstitched towels.

Do you know the difference between the hemstitch and the hemming stitch? They are both used at the edge of the hem to hold it in place. Sometimes the hemstitch is used in other places, too. It is necessary to draw out some of the threads of the cloth

1. The hemstitch.

before the stitch can be made. For the hemstitched towels or scarf measure for the hem from the raw edge, twice the width of the finished hem desired, plus one turning of $\frac{1}{4}$ inch. How much, then, will you measure for a hem 1 inch when finished? At the point measured, place a pin. Draw out three or four of the filling threads very carefully. Be sure to pull out the whole thread all the way across when it breaks. Remember how the filling thread passes at the selvedge and remove it there as it turns.

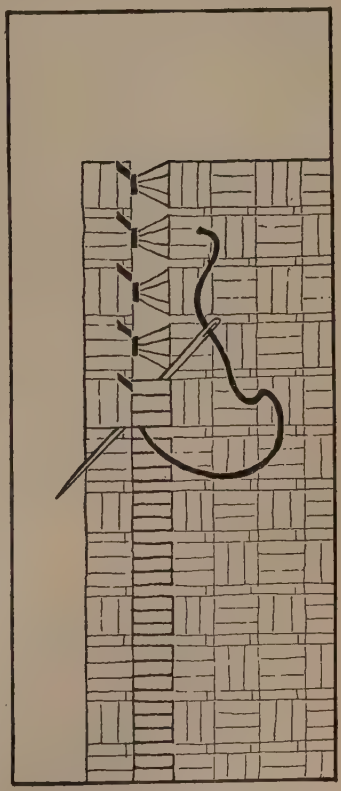

Fig. 144. — The hemstitch is used where threads have been drawn.

Then baste the hem very carefully, turning to wrong side. Baste close to first drawn thread. Hold work over fingers of left hand in vertical position. Place needle in edge of hem, and draw thread without a knot under the edge of hem just exactly as plain hemming is started (Fig. 144). Throw thread away from the worker, take up a bundle of the threads by passing the needle under them and pointing it towards the

worker along the edge of the hem. Again pass the needle under the same bundle of threads, but this time pass the needle through the under cloth and also through the edge of the turned hem, just beyond the bundle. This stitch should come between two bundles of thread. Make the next stitch by taking up a second bundle of threads. At first one should count the number of threads so as to have the bundles uniform, but with practice this is not necessary. As a rule, the coarser the material, the fewer the number of threads taken up. This is a simple way of hemstitching although there are other ways. Double hemstitching like Miss Ashley's scarf is made by hemstitching the other or opposite side of the hem, taking up the same bundles. Dorothy Vincent said that she had always called the hemstitching the hemming stitch. She will not do so again; will you?

The other new stitch is called the catch stitch or herringbone stitch and was used on the wash cloths in Miss Ashley's case. She explained how it can be made. It is a stitch which can be used for decoration or for catching the edges of a seam or hem. Mrs. Edwards used it on the flannel petticoats which she made for baby Dorothy. After the plain seam is sewed and opened flat, the edges are caught with the loose catch stitch. It is really a flannel stitch although used for decoration, too. As the flannel shrinks a little in washing the loose stitch allows for this and holds the raw edge of the hem flat. Flannel

2. The catch or herring-bone stitch.

hems do not have two turnings as the material is so thick. Miss Ashley had one of baby Dorothy's petticoats to show the class. This is how the catch stitch is made. It is sometimes called the herringbone stitch. Can you guess why?

The stitch is made from left to right. We can use a pencil mark for a guide on the practice piece of cloth. We shall use the stitch on the right side. It resembles cross-stitch. It is really a series of backstitches placed alternately above and below the guide line. The spaces between stitches should be the same and

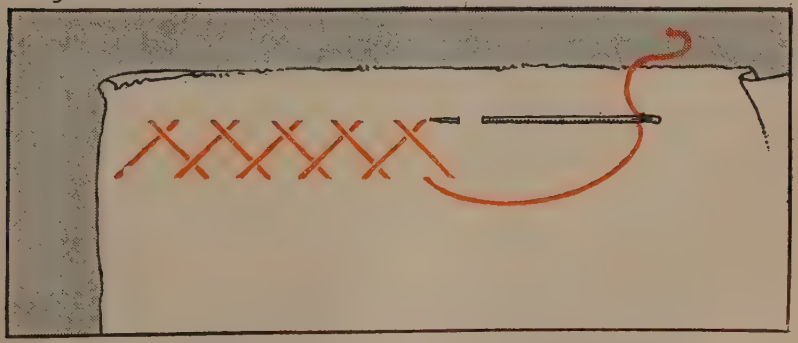

FIG. 145. — The catch stitch must be taken evenly to look well.

the stitches below the guide line opposite the spaces above. This causes the thread to slant and makes the cross, as it is worked from left to right (Fig. 145). To start draw needle to right side about $\frac{1}{8}$ inch below the guide line. The first backstitch is taken $\frac{1}{8}$ inch above the line. This will make the slanting line as the stitch is $\frac{1}{4}$ inch beyond the starting place. The second stitch

is taken below the line; and the directions as above are followed so that stitches come opposite the spaces, above and below. In finishing an old thread, take two or three small stitches on wrong side. In beginning a new thread, draw up as at the start, so as to form the correct cross on the right side.

II. The traveling case.

Constance Moore made the case for the wash cloths for a surprise Christmas gift for Miss Ashley, who expected to take a trip to Canada at Christmas time. This is how the case was made. A strip of huckaback linen 12 × 4 inches was used. A hem 1 inch in width was hemstitched at one of the 4 inch ends. The other three sides were hemmed with a hem $\frac{1}{2}$ inch wide finished. Then the strip was folded to form an envelope, with the hemstitched edge as the fly of the envelope; and the hemmed edges were overhanded to form the pocket. Miss Ashley's initials, R. E. A., were worked by Constance in the center just above the line of hemstitching (Fig. 146). She used a D. M. C. cotton of old blue color for this. The wash cloths to carry in the pocket were made of cheesecloth worked with the same color thread as the initials. The cloths were 12 inches square when finished, or cut 14 inches square. A half-inch hem was turned all around the

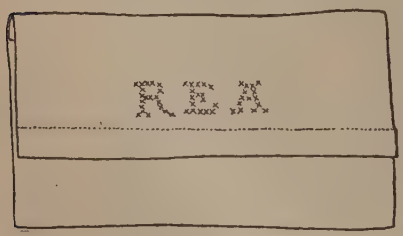

Fig. 146. — The traveling case for wash cloths.

square and the hems held with the catch stitch for decoration. What do you suppose Constance did? She wrapped her surprise gift very carefully and neatly in white tissue paper and fastened it with some Christmas seals. Then she stuck a piece of holly in the corner to give the package a festive appearance (Fig. 147). We know Miss Ashley was delighted. Wouldn't you be to have such a thoughtful gift if you were preparing for a journey?

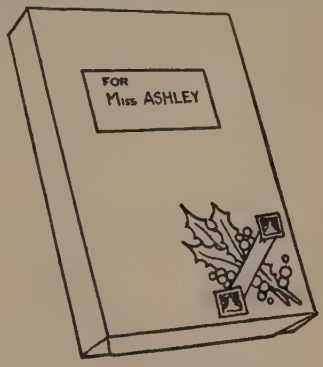

FIG. 147. — The Christmas package for Miss Ashley.

Miss Ashley had some dainty doilies and a centerpiece to show the girls. They were made of fine white linen and the only decoration was a scallop of white D. M. C. cotton around the edges. Miss Ashley told the girls that they all knew how to make the stitch, for it was simply the blanket stitch made close together to form the scalloped edge (Fig. 148). The stitches are taken the depth indicated so as to cover the two lines of the marked scallop. The linen can be cut in circles to fit the size of the plates and the scalloped edges marked with a spool. Doilies are easily laundered and save heavy washing. Mrs. Edwards used them nearly all the time. A bare wooden table kept clean and well oiled is very attractive set with them (Fig. 149).

III. The doilies and centerpiece with scalloped edges.

Pincushion tops, bureau covers, table covers, tray covers, and many articles for personal wear can be decorated with this useful stitch.

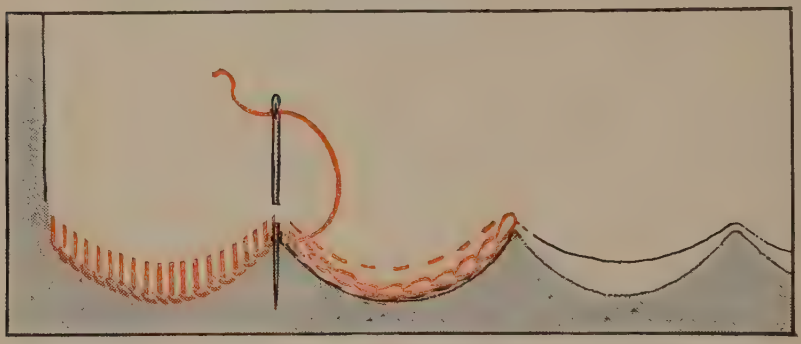

Fig. 148. — The scalloped edge is easily made if one follows this illustration.

The Sunnyside girls made some of the articles by machine. There were laundry bags, shoe bags, work-

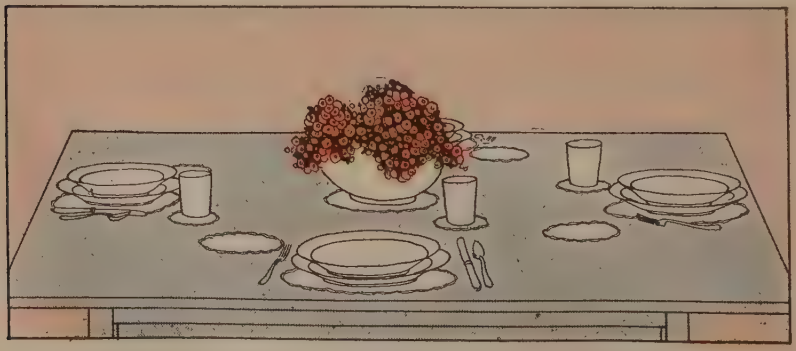

Fig. 149. — Mrs. Edwards used doilies a great deal. They save laundering.

bags of various kinds. There were aprons, too, for many purposes, some of which were made by hand, — aprons

for sewing, for cleaning, for cooking, for serving, such a variety, all for the utility table. Perhaps you would like to know how to make a workbag and also one of the sewing aprons by machine! Here are the descriptions:

IV. Another article for the utility table — a workbag.

1. Cretonne folding workbag (Fig. 150). This is made of two pieces of cretonne cut $19\frac{1}{2}$ inches long × $16\frac{1}{2}$ inches at the widest part. Cut elliptical in shape. Turn neatly one turning of $\frac{1}{4}$ inch all around both pieces and baste separately. A plain color to correspond with one of the cretonne shades can be used for the lining piece. Divide the crosswise space of the lining into sections as shown in the diagram and crease. These sections will

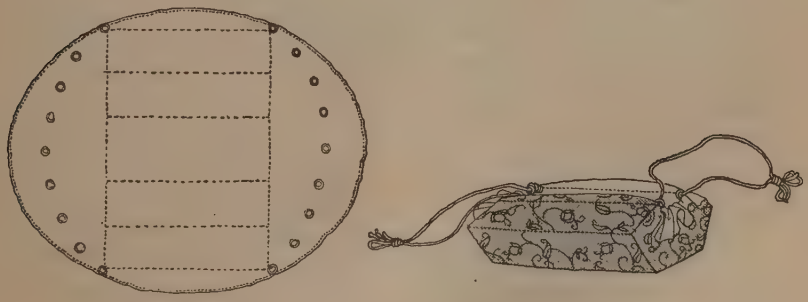

FIG. 150. — The folding sewing bag with rings.

be five in number and the lines creased 3 inches apart, leaving a space each end of 2 inches. Place the two ellipses, bag and lining, together. Baste carefully on creased lines of sections and stitch by machine six lines of stitching 7 inches each in length. Five pieces of card-

board are to be cut and slipped into the five spaces, formed by the six lines of stitching. Cut the cardboards 7 inches long × $2\frac{1}{2}$ inches wide. After these are slipped in place, put the turned basted edges of the bag and lining together and baste. Put two rows of stitching all around the edge, one on the very edge and the second $\frac{1}{8}$ of an inch from the first. The bag can be folded flat in traveling. To draw up while in use sew 9 brass rings or rings crocheted with same color at each end about 2 inches apart, and following outline of bag. Place as shown in the diagram. This is a very useful bag and is easily made by machine. Slip two cords or ribbons through the rings for drawing up. Start one each way as in sewing bag.

2. Sewing apron of dimity or madras trimmed with Hamburg edging (Fig. 151).

a. Cut pattern shape of diagram. Make pattern 23 inches long at the center from bottom of band to middle point. The widest part of the apron is 27 inches. The length from band to other points is 20 inches. The length of the sides of the apron is

V. A sewing apron to be made by machine.

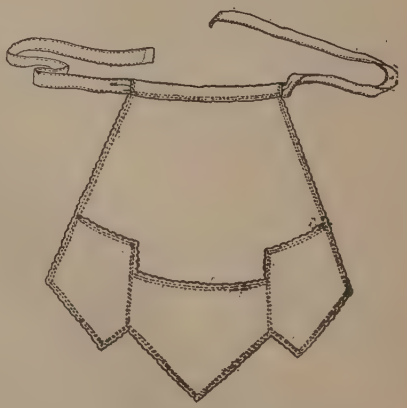

Fig. 151. — The sewing apron with pockets.

17 inches. Cut pattern to form these three points. The apron has three pockets. Notice shape in diagram of the pieces forming them. Cut one similar in shape.

b. Trimming the apron.

First trim the top edge of the pocket piece. A narrow turning of $\frac{1}{4}$ inch is made towards the wrong side along the shaped top edge of the pocket piece. The narrow $\frac{1}{2}$-inch Hamburg edging is turned $\frac{1}{4}$ inch to the right side along its raw edge. Place the turned edge of the dimity on the turned edge of the edging so that they overlap. Miter evenly at the turns. Baste and stitch with two rows of stitching to hold all edges neatly.

Baste the pocket in place on the apron. Turn the apron edges all around except top to wrong side $\frac{1}{4}$ inch. This will be double in some places on account of the pocket. Turn edges of Hamburg trimming $\frac{1}{4}$ inch to right side, overlap apron edges, and stitch twice in the same way as explained for the pocket. Place two rows of stitching so as to divide the pocket in three sections.

c. The band and strings.

Make the strings of dimity $\frac{3}{4}$ of a yard long and 3 or 4 inches wide. Make narrow hems of $\frac{1}{8}$ inch along edges; baste and stitch. Hem the ends with 1-inch hems. Plait the other ends to fit width of band. Cut band the length of width of top of apron, plus 2 inches for turnings. Put on in same way as petticoat band (page 225), turning to wrong side. Slip the apron strings inside the band as it is turned to the wrong side, before it is basted and stitched at the bottom and ends.

Suggestions for Review

1. Bring one article to school for a suggestion for a Red Cross fair or gift. Bring a picture if you haven't an article to show.
2. Estimate cost and amount of material necessary for the article suggested.
3. Draw on the blackboard the sketches of the new stitches learned. Tell where you would use them.

Lesson 33

The visiting superintendent tells how silk is made into cloth

One day at the Ellen H. Richards School the district superintendent, Mr. Fletcher, was present at the opening exercises. The subject which the girls in charge of the exercises had for discussion that morning was silk, and how to purchase it intelligently. The superintendent was so interested that he told the girls of his trip recently through one of the great silk factories. Would you like to know what he said?

I. Silk manufacture in America.

Most of the silk factories of the United States are in New Jersey, Connecticut, New York, and Pennsylvania; in fact our country leads in the manufacture of silk and uses more raw silk than any other country in the world. France is next in producing very beautiful materials. We raise very little silk in the United States. Do you know why? People have tried to raise silkworms here. This was done as early as 1624, in Virginia, but the experiment was a failure because of the high cost of labor. Have you heard that in 1747 the governor of Connecticut, who was interested in silk culture, ex-

perimented on his place and produced silk which was used for his coat and silk stockings? Silk manufacturing in America has become a great industry. We use 85 per cent of the silk manufactured here; and you will see that we have some to export, too.

What a wonderful little fiber silk is! Have you in studying about it looked at it under the microscope (Fig. 152)? What did you notice? How wonderfully strong it is and how beautiful it looks in the reeled hanks ready for the manufacturer to make into cloth or thread of various kinds!

Fig. 152. — Have you ever seen silk fibers magnified?

1. The silk fiber under the microscope.

This is what Mr. Fletcher, the district superintendent, saw when he visited the Connecticut silk factory. The first room contained great bales of silk weighing 100 or 150 pounds each, not so large, you see, as a bale of cotton. There were many hanks or skeins in each bale, tied up in bundles of five or ten. A man called a throwster took the hanks and soaked them in warm water, dried them, and placed the silk on swifts or reels for winding. Silk throwing means just this: soaking to remove the gummy secretion which makes silk

2. Mr. Fletcher describes the processes of silk manufacture seen at the factory.

stiff in the skeins and winding the silk from the skeins to the spools. In one skein there are from 75,000 to 200,000 yards of silk. The ends are taken from the skeins on the reels and wound on spools. The large spools are then placed in a machine which cleans and twists two of the spool threads together to form one and winds this one on other large spools (Fig. 153). This twisted silk is called organzine. Did you ever hear that queer name before? It is the name of the silk thread used in the loom for the warp. The warp threads must be strong, you know. Why are twisted threads stronger? The silk is so perfect that it does not have to be prepared as much as cotton. Often it is twisted only a little for the warp.

(a) Silk throwing.

(1) The organzine or warp prepared.

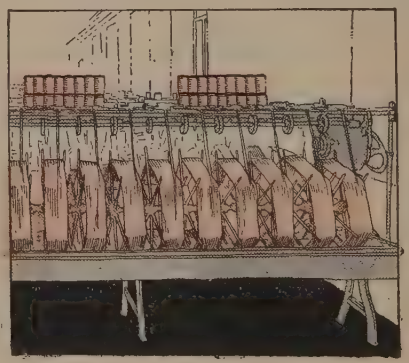

Fig. 153. — Winding raw silk.

The thread used for the filling has a strange name, too. It is called the "tram." It need not be of so good a quality of silk as the strong warp or so tightly twisted either. Silk throwing means getting the fibers ready for weaving, as cotton spinning means preparing the cotton yarns of warp and filling for weaving.

(2) The tram or filling thread.

Silk is sometimes used in the natural color but is often dyed. You know how many lovely colors there are! Silk is sometimes dyed after it is woven into cloth, but more often it is dyed in the yarn in hanks. This is done by dipping the hanks or skeins in great vats of dye. Mr. Fletcher said that many skeins can be dyed at once by machinery. They are put on a big wheel or drum, and as it turns the skeins are dipped in the vat of dye. The aniline dyes, which are coal tar products, are used. Did you ever hear before that coal could produce such lovely colors? Some day Mr. Fletcher will tell the children of the wonderful things which are made from coal tar. When the man at the factory dyes the silk, he knows that the gum which was soaked out weighed about 25 per cent of the raw silk. If he wishes to produce cheap silk and make much money, the weight of gum which was lost in soaking will be made up by adding tin. The silk is dipped in bichloride of tin or other chemicals and absorbs or takes up the tin until it weighs sometimes twice or even four times as much as the boiled-off silk. Did you or your mother ever buy tin instead of silk? Sometimes women think they are buying heavy silk of a good quality, when they are really getting tin. The solution of tin used rots the silk; and when the light and air come in contact with it, the silk crumbles away. Miss Washburn had a petticoat which went to pieces simply hanging in the closet. The girls have wondered if the bargain petticoats

(*b*) Silk dyeing.

(1) Adulteration of silk.

(2) Do you know what you are buying?

offered for sale at Smith and Jones' Department Store in Commonwealth City might not be cheap because they had been kept a long time and were going to pieces! Sometimes one can see the tiny holes in the silk by holding it to the light. Did you know that it was necessary to know about how silks are made in order to purchase them intelligently?

Dorothy asked how the spools containing the twisted organzine or the tram were used in weaving silk.

(c) Silk weaving.

Mr. Fletcher said that the spools for the warp were placed in racks and many ends taken and unwound from the spools to the large drum or

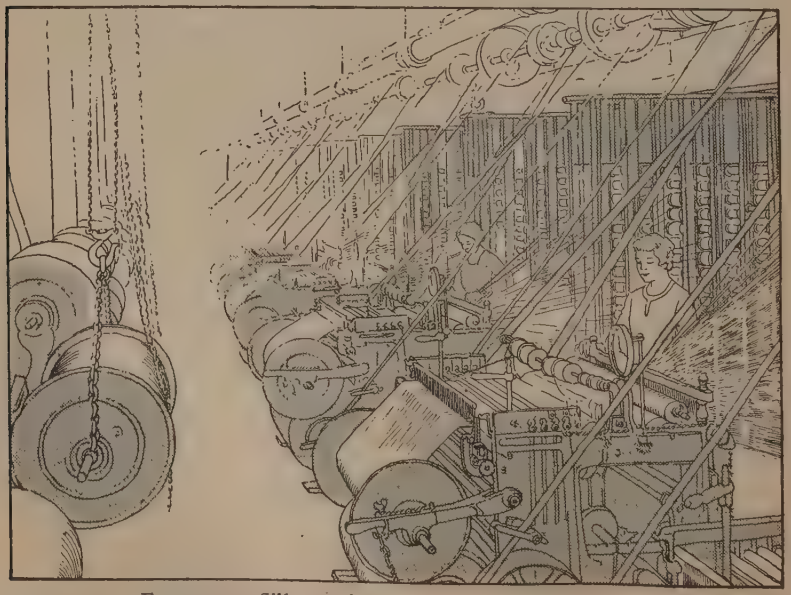

Fig. 154. — Silk warping in preparation for weaving.

wheel (Fig. 154). The warp is prepared on the big drum and then rolled from the drum to the warp roller which fits in the back of a loom. The threads are then harnessed as the cotton threads we studied about were harnessed to the loom heddles, and finally fastened to the cloth roller at the front of the loom. If plain silks are to be woven, the loom used is very much like the loom for weaving cotton cloth (Fig. 97). When fancy patterns or designs are desired the manufacturer uses the Jacquard loom. This machine weaves very beautiful patterns. M. Joseph Jacquard, a Frenchman, invented it in 1801. In the picture you will see a series of cards cut with tiny holes (Fig. 155). The cards control the warp threads and regulate which are to be up and which down as the shuttle flies back and forth, over and under, producing the beautiful materials of silk brocade, or linen damask. Do you

(1) Plain weaving.

(2) Fancy weaving.

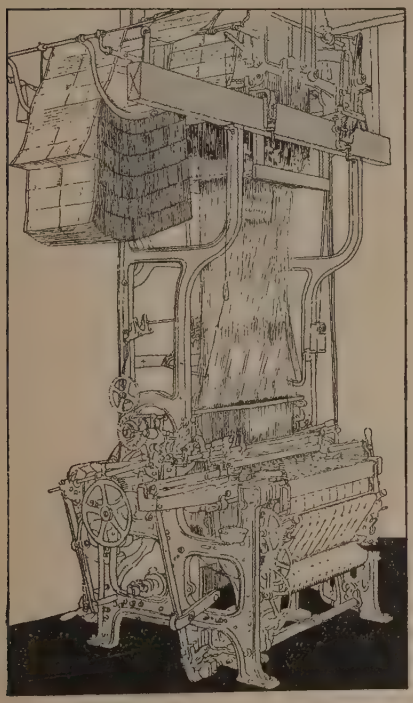

Fig. 155. — The Jacquard loom weaves very beautiful patterns.

remember how the harness in Miss Ashley's loom held some threads up while some were down? Each card is cut in a different way, so that the warp threads are held correctly each time the shuttle passes in making the beautiful patterns. Perhaps some day you may be able to visit a silk factory and see ribbons or silks being made.

3. A moving picture of silk culture is shown at the library of Commonwealth City.

The Public Library of Commonwealth City had a moving picture of silk culture and manufacture. This was shown shortly after Mr. Fletcher's talk, and Miss Ashley and all the girls went during school hours instead of having a lesson at school. They all felt that they understood well how a factory looked and the wonderful things that were done in making raw silk into cloth.

Suggestions for Review

1. Look up in your school library the story of silk throwing.

2. Write a composition about silk manufacture in the United States. This can be done after studying the library references which your teacher will suggest.

3. Try to visit a silk mill, if possible, in your section of the country. If you cannot, write to one of them for lantern slides, moving pictures, or data. They are often glad to furnish information.

4. Find out all you can about the adulteration of silk. Your teacher will tell you where to get the information.

CHAPTER IV

MENDING DAYS AT SCHOOL

Once each month Miss Ashley had mending day at the Sunnyside apartment. It was then that the girls brought any necessary mending from home and put into practice what they had learned at school about caring for their clothes and repairing the household linens. All the mothers agreed that this was a great help, and that since Miss Ashley had planned for this, the girls had been able to assist with the home mending. Miss Ashley gave credit for this work, too, when done at home. Perhaps your teacher has made such a plan for your school. The girls learned that "a stitch in time saves nine," and that buttons off, or holes in stockings or other garments, do not look neat. They realized that a little foresight, too, saved time and money, and that this was not only necessary but was true patriotic service. Would you like to know some of the things one can do in order to care for one's clothes so that they

will always be neat and attractive in appearance? Which way do you think Miss Ashley's clothes looked, neat or untidy? She tried to teach the girls, too, that one must conserve material, time, and energy. You will wish to learn, for no one wishes to be unattractive in appearance or wasteful. In addition, one should consider conservation of time and labor as well as raw materials.

Lesson 34

THE GIRLS LEARN TO DARN

Miss Ashley told the girls that on the first mending day they might bring any garments or household articles with straight tears, which needed to be darned. Stockings would be saved for another day. Have you torn your dress or coat with a straight or jagged tear? This lesson will help you to make it look neat as well as to conserve the garment for longer wear.

Miss Ashley was delighted to think that so many different articles had been brought. Dorothy Vincent had a straight tear in a table cover, Marjorie a towel, Edith Potter a square-cornered tear in her coat which she had caught on a nail (Fig. 156). It was really two straight tears joining each other; that is, one tear was across the warp and the other across the filling threads. Marjorie's towel had a straight tear across

I. Many kinds of tears to be darned.

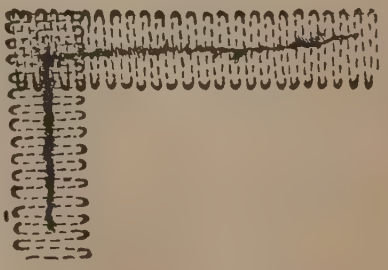

Fig. 156. — The square-cornered tear.

the warp threads, and Dorothy's table cover a straight tear across the filling threads. How did they know which threads were torn? The selvedge will help one to tell. Look at the tear in your dress and see if you can discover whether it is across warp or filling threads.

Did you know that darning means putting back the worn or torn threads? Hand darning is nothing but the running stitch made small and very fine. The pictures (Figs. 156, 157, 158) will show how to mend the four different tears, two straight, a slanting, and a square-cornered tear, like the one in Edith Potter's coat. Miss Ashley told the girls that in her work basket she always kept a roll of black and a roll of white wash net or bobbinet. A piece basted under the torn or worn part of an article reënforces the weak place when darned, and helps to make it last much longer. The darn is made on the right side. Begin without a knot and a little beyond the tear for strength. Fill in with rows of running stitches close together. The stitches should extend far enough each side of the tear to take in the worn part also. In turning at the end of each row, leave a tiny loop. Why? Do not leave a very large one, but simply one large enough to allow for stretching and pulling in washing. In passing over the threads at the torn place, try to make the stitches hold down the threads. In finishing extend the rows of running stitches beyond the tear as at the beginning. A straight

1. Darning is done with the running stitch.

2. How to darn a straight or square-cornered tear.

warp or a straight woof tear may be mended in this way. A square tear is a combination of the two. At the

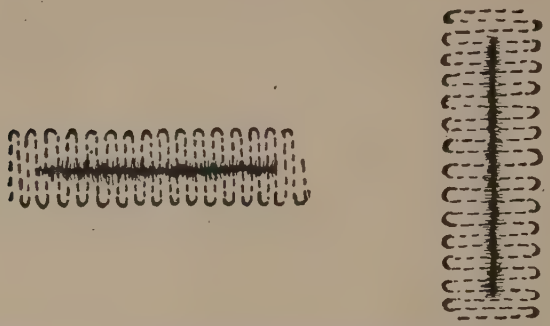

FIG. 157. — A straight tear may sever warp or woof threads.

corner there will then be both warp and filling threads and a double darn like a weave. Can you see from the picture how this will look? The thread should match as nearly as possible. Sometimes horsehair, human hair, or split silk thread or No. 150 cotton, makes a good darning thread when one does not wish the darn to show. Ravelings of the same cloth are sometimes used. The size of the needle will depend on the fineness of the cloth to be darned. No. 8 is right for ordinary darning.

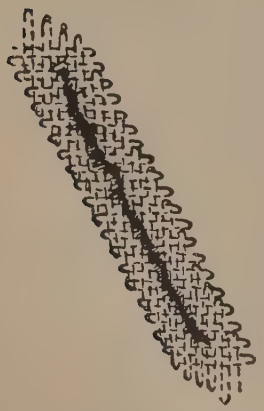

FIG. 158. — The slanting tear cuts both warp and woof threads.

Many of the girls darned straight tears at home, too, and Miss Ashley was pleased with the results and felt that they had learned to darn well.

Miss Ashley said that one should learn to use the machine for darning and patching, — especially during times when one must save time as well as clothing. One can darn as well as patch by machine and do it thoroughly and more quickly. It means practice; and while learning, basting may be necessary; but later one may be able to pin the patches in place and do the work more quickly. Mrs. Vincent said that she must give every moment to the Red Cross work and so does the family mending principally by machine. She finds that bed linen, underwear, towels, and some table linen can be satisfactorily mended in this way.

Suggestions for Review

1. Draw a picture of the way the straight tear should be darned.

2. Plan an exhibit of garment darns made by the girls in your class. Ask one of the mothers to be the judge. Mrs. Vincent judged the darns made by Miss Ashley's pupils.

Lesson 35

DARNING STOCKINGS

Have you ever darned your stockings or baby sister's? On stocking day at the Sunnyside apartment, Mrs. Edwards sent up some of her stockings, also baby Dorothy's. The girls learned to darn them and enjoyed it, too. This lesson tells how they did it.

Do you know how stocking darning differs from the straight tear darning? Usually there is a hole. Edith Potter had a very large one in her stocking. She

forgot about a "stitch in time." It pays to darn while the hole is small. The part where there is now a hole must be replaced, and Miss Ashley told the girls how this is done with a small piece of weaving over and under of warp and filling. "Why couldn't one place a patch under the hole?" Dorothy asked. Think how thick and uncomfortable an extra thickness would be; so a woven piece of cloth is put in instead of a patch. Look at your stockings. How does the material differ from your dress? The stocking is knitted material, and the dress woven material. The knitted material is called stockinet. Do you know of any other articles of wearing apparel which are made of stockinet? Yes, gloves, mittens, sweaters, underwear. The picture of the knitting machine will give you an idea of how they are made. Perhaps some day you can visit a knitting factory.

I. Stocking darning different from straight tear darning.

1. Difference between stockinet and woven material.

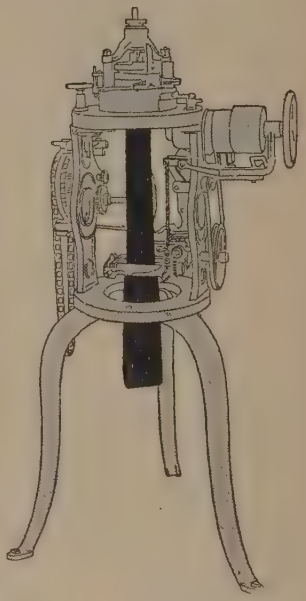

Fig. 159.—A knitting machine.

Did you ever see anyone knit? Miss Ashley made many pairs of stockings for the soldiers overseas. Perhaps you did, too. She used four needles and one

thread and worked round and round the stocking by making tiny loops just as the machine in the factory does. How many threads are used in weaving? Edith Potter had a stocking to mend in which one of the little loops had been caught and it made a little ladder or run all the way down the stocking leg. This shows how the tiny loops are locked one into the other in knitted cloth. In order to stop such a raveling one must catch the loop which is torn.

This is the way Miss Ashley taught the girls to darn the holes in their stockings.

Use a darning needle and single or double darning thread, according to the fineness of the stocking. Can you thread the big eye by doubling the end of the thread? Begin on the wrong side without a knot, about $\frac{1}{4}$ of an inch to the right of the hole. The stitches are the same fine running as for the other darning, and the rows made close together. Look at the picture (Fig. 160). The darn is about diamond-shape when finished. Why? This prevents the strain from coming on any one row of loops in the stocking. A tiny loop is left at each row in turning, as stockinet is a stretchy material. This darning should run the same way as the loops, up and down the material. Care must be taken at the hole. If possible, pass the needle through the loop at the edge of the hole and extend the thread across the hole to the loop opposite, and continue with the darning stitch. When the warp is all in there will

2. Darning the hole in the stocking.

be rows of threads close together extending across the hole. In fine darning when one wishes to be very particular, or when one is darning sweaters or gloves, all the loops at the edge of the hole should be carefully caught. For everyday stocking darning, one does not have time to stop for every loop at the edge of the hole.

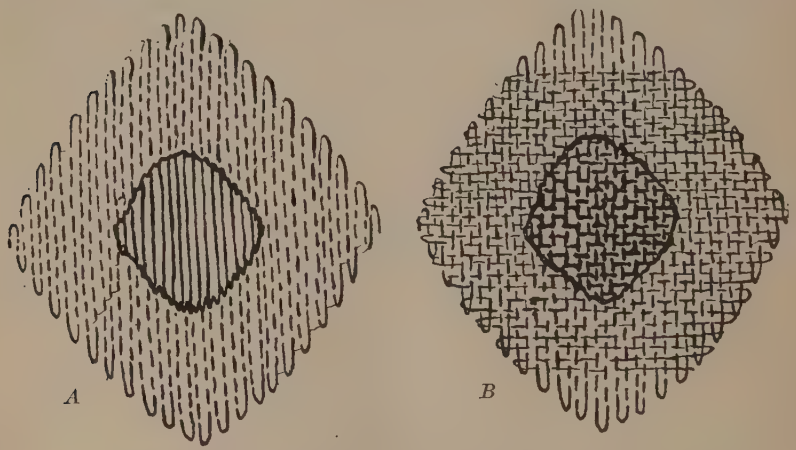

Fig. 160. — Darning a hole in the stocking.

A. Putting in the first thread. *B*. Weaving in the second thread.

As we said above, the hole is to be filled in with a piece of woven material which we are to make. After the warp has all been put in, we must go over part of the darn and fill in the cross threads, which are woven over and under the warp threads which have been put in at the hole. The running stitch is used. The sketch (Fig. 160) shows the portion of the darn to be covered with the running stitches and just where

the weaving is to be done; you will notice that the first row of crosswise running stitches is placed a little below the hole, and that the last row extends a little above. Why? In the hole one must go over and under the warp, alternately, as one does in weaving. This is all done with one thread, which is carried in fine running stitches to the hole. It is then passed over and under the warp threads and is continued with running stitches at the other side of the darn, turned with a tiny loop, continued with running stitches, and again passed over and under the warp alternately. This is continued until the darn is completed.

Sometimes there are tiny rips in the seams of stockings. They can be overhanded carefully on the wrong side, taking up only the very edges of the seam so as not to make a ridge. If the long ladders which sometimes come in stockings, like Edith Potter's, are not too wide, they can be overhanded together on the wrong side; or, if one has time, they can be darned as a hole. As a rule this is a waste of time. A worn place near a hole should be included in a darn. Where several small holes are close together, darn in one large darn.

3. Advice from Mrs. Vincent about buying stockings.

Dorothy Vincent's mother happened to come in while the girls were darning their stockings. Edith Potter was having quite a hard time darning and exclaimed, "Why will stockings ever wear out!" Mrs. Vincent has had much experience in buying for her large family, and she gave the girls some suggestions. Of course she

said, "Watch for holes, and do not let them grow as large as Edith Potter's. Change stockings more often, and wear the right one on the left foot the second day." She said that it did not pay to buy cheap or very thin stockings at 25 cents a pair. If she paid 35 cents a pair or, as sometimes, a dollar for two, and cared for them when tiny holes appeared, six pairs lasted Dorothy for nearly a whole year. Mrs. Vincent said that one is not well dressed when stockings or garments of any kind are so thin as to be conspicuous. Then, too, very thin stockings do not last any time at all. Mrs. Vincent thought the girls were darning very well, and said laughingly as she went out, "Now I know where to send my weekly mending."

Suggestions for Review

1. Darn an extra stocking at home without your teacher's help. Take it to school for her criticism.
2. What things are necessary for a well-equipped darning bag?
3. What can you do to help mother with the weekly mending?

Lesson 36

Patching lengthens the life of articles

Miss Ashley had a neatly patched work apron to show the girls. She had caught it on the step ladder while cleaning and had torn out a piece. It was too large a hole to darn. How then do you think it was repaired? All the girls had articles which needed patching; have you?

Miss Ashley said that the girls would learn to make the simplest and most useful kind of patch, called the

I. The girls learn to patch.

hemmed patch. A patch, you know, is a piece of cloth cut larger than the worn hole and used to cover the hole. The hemming stitch is used for sewing this simple patch and so it is called the hemmed patch because all the rough edges are turned under and hemmed flat. It is better to patch with material which has been used than with new. Do you know why? The hemmed patch can be used for tablecloths and napkins as well as towels, aprons, underwear, and other articles. It is a splendid one to use on articles

1. The hemmed patch is a very useful one.

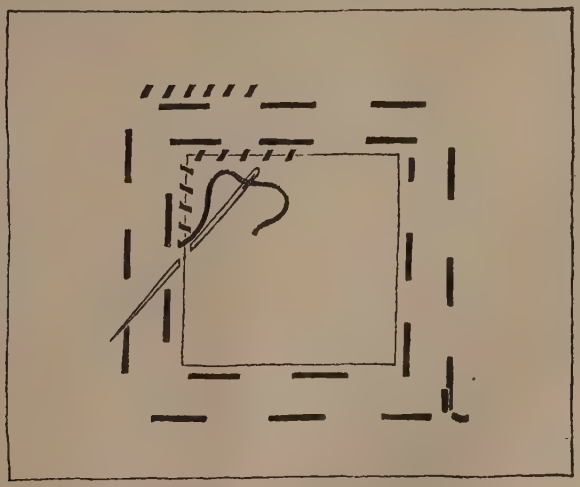

Fig. 161. — The right side of the hemmed patch.

to be laundered, for it lies flat and all rough edges are hidden. What have you brought to patch? The hemmed patch is always put on the wrong side.

Cut a square or oblong piece which will cover the hole and extend beyond the worn part. Allow $\frac{1}{4}$ inch extra all around for turnings. Crease this patch diagonally. Find the center of the hole of the worn article. Crease the article in diagonal lines for a square or oblong, according to shape of place to be patched. Pin patch on wrong side so that diagonal creases of patch fall on

2. How to make the hemmed patch.

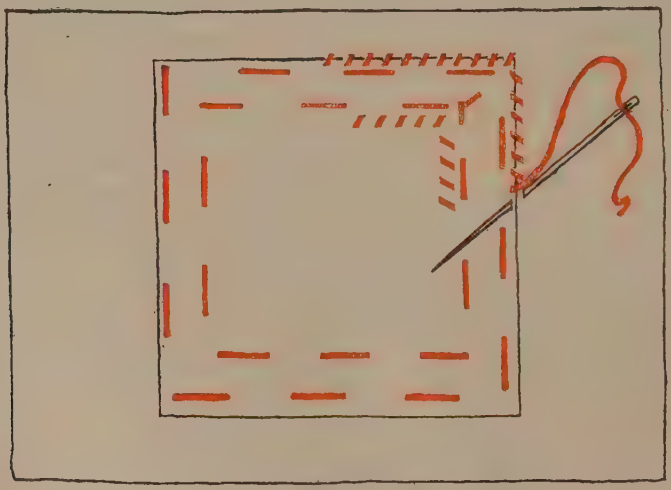

FIG. 162. — The wrong side of the hemmed patch.

diagonal creases of article. Turn to right side (Figs. 161, 162). Cut the hole, removing all frayed edges until it is a true square or oblong, measuring from the center where diagonal creases cross. After cutting make a tiny slanting cut from $\frac{1}{8}$ to $\frac{1}{4}$ inch at each corner on the diagonal creases of the article, and turn under

these cut edges. Pin and baste carefully. Turn to wrong side. Hold to light to see if the patch is the same width on all sides of the hole. Trim if necessary. Remove pins, flatten, turn edges of the patch by opposites and baste. The hemming stitch is then used on both the right and wrong sides of the patch to hold the edges. This patch is laundered flat and is very neat.

Many of the girls patched their aprons, corset covers, or under slips. Miss Ashley said that sometime she would devote the mending day to household articles and show the girls how to patch quickly by machine.

Suggestions for Review

1. Make a picture of the appearance of the hemmed patch on the wrong side; on the right side.
2. Draw a picture of the hemming stitch which is used in sewing the hemmed patch.
3. Bring to school some articles mended with the hemmed patch. Bring your own work if possible.
4. Bring to school articles mended with other kinds of patches.

Lesson 37

Care of Clothing in Use

Miss Ashley says that clothes last much longer if properly cared for. Would you like to know the suggestions she gave the Sunnyside girls?

Many of Miss Ashley's pupils as well as their parents often spoke of Miss Ashley's neatness in appearance.

As someone said, she looked as if she had just come out of a bandbox and never did any work! Of course the girls knew that she did, and were eager to discover her secret and how she managed so well. Miss Roberts was another person who looked well dressed and very neat. Her salary was not large, but she always seemed to have the right things to wear. Mrs. Vincent said she was teaching Dorothy to spend wisely and to care for her clothing, and was putting into practice all the excellent ideas which Miss Ashley had given. What do you suppose is the secret? We are to learn, too. Here are some of the things which help.

I. Care of clothing is necessary if one is to appear well dressed.

1. Brushing makes clothing look better and neater.

2. Pressing a skirt or suit makes it last longer and improves its appearance.

1. Some things which help in the care of clothing.

3. Being careful with one's clothes each day helps to save much time in cleaning and repairing.

4. Spots on clothing look careless and spoil a neat appearance. Darning or patching help to increase the life of a garment if taken in time. A patched garment adds to one's self-respect; holes or tears are not neat.

5. Care of clothing is a duty when materials are scarce and the cost high.

One day, while the girls were having their mending hour at the Sunnyside apartment and finishing their patches and darns, Miss Ashley talked with them about

caring for their clothes during the day as well as during the night. Brushing clothes certainly helps to make one look neater in appearance. In the cities one does not have much room for hanging out one's clothes as one can in the country. One can carry the clothing to the roof and air it and hang it out there if there is no other way (Fig. 163). It costs much time, energy, and money to keep clean, especially in the cities where there is the city dust and smoke to contend with. Miss Ashley told the girls to hang their garments on a line and beat them with a clothes beater, turn the pockets and collars and cuffs inside out and brush carefully with a whisk broom, and shake them free from dust and if possible allow them to hang in the sun until they smelled sweet and clean. What does the sunshine do to germs and dust?

(*a*) **Brushing clothing helps to keep it in order.**

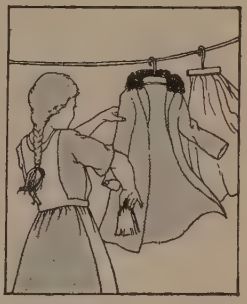

FIG. 163. — Brushing helps to keep clothing neat and fresh looking.

Another way to keep one's clothing neat is to protect it while in use. Edith Potter had two kinds of aprons for use while helping at home — the cleaning or bungalow apron, and the small white one (like Fig. 151) which she puts on to protect her dress front. Mrs. Potter found that this saved a great deal. She also planned to remove her street clothes for a house dress while indoors. This is a great saving of street clothes.

(*b*) **Protecting clothing helps to prolong its life.**

Mrs. Potter also made Edith some covers to protect her best clothes, which were not always in use. They keep the dust of the city from spoiling clothing which is not worn every day and prolong its life (Fig. 164).

Edith was careful to follow Miss Ashley's advice about hanging up her clothes on coat or skirt hangers, instead of throwing them in a heap at night and having them become dusty and wrinkled. Some of the girls made splendid hangers of pieces of wood wound with newspaper and covered with cheesecloth. They tied a ribbon around the center for a hanger. These will answer if one cannot afford to buy hangers. Nails placed in the closet so as to keep the loops of skirt bands extended will answer, too, if one hasn't the skirt hangers. They can, however, be bought for very little.

Fig. 164. — Edith Potter protects her dresses with covers.

Dorothy Vincent always helped her mother in the spring to store the winter clothing for the summer, so that moths would not destroy it. Much good material is wasted and lost because of this lack of care. Dorothy read a government bulletin about the clothes moth, and she learned that the essential thing is to see that garments are well sunned, brushed, and thoroughly cleansed before being put away. Furs, woolen coats, and dresses should be brushed and all spots removed. If this is well done and no moth eggs are within, it is unneces-

sary to use camphor and other moth preventatives. Simply seal the well-wrapped packages carefully. If moths or eggs are in soiled garments, they will be eaten even if camphor and tar paper are used in wrapping. In doing up winter clothing always label carefully so the garments may be easily found when desired (Fig. 165).

In the autumn Dorothy and her mother put away the summer garments. They were washed and not starched, as starch rots them and turns them yellow.

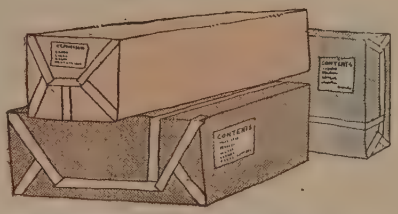

Fig. 165. — Do you pack your winter clothes away to prevent moths from eating them?

Making over good woolen or other materials is a way to save. Often mother's old skirt if washed and pressed can be used to make a suit or coat for John or Mary. At the Richards School the girls had a collection day, and with the boys' help secured many old garments which had been stored in attics or were no longer of use to their owners. They had planned to fumigate, cleanse, and rip these for the high school girls to remodel.

Do you remember, as Edith did after she had learned, to air your clothes at night? This is important if one is to be neat. She washed her shields, too, and hung them to dry, for she knew that the odor of perspiration is offensive to others and is not neat. Edith had a great deal of trouble so Miss Ashley told her to wash care-

(c) Other suggestions for neatness and conservation of clothing.

fully each morning with warm water in which a little borax had been dissolved. Edith was careful also to wash the yokes of her dresses and her collars for they certainly do not look neat if soiled. Here are a few more suggestions given for neatness:

Sew on shoe buttons or other buttons at once when loose.

Let down the hems of last year's dresses.

Darn your stockings as soon as you see a hole.

Patch your dresses and underwear.

Wear rubbers and keep your shoe leather dry (Fig. 166). This saves the shoes from rotting and prevents sickness. Wet feet cause many serious troubles later. If your shoes get wet, dry them slowly. Leather can stand little heat. Do not dry shoes over a stove or radiator, as quick drying rots the leather.

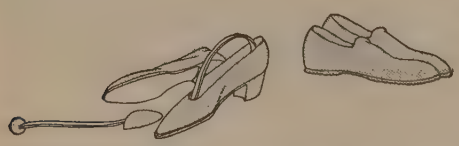

Fig. 166. — Rubbers protect shoes and shoe trees prolong their life.

Have your shoes resoled and heels straightened when necessary. It prolongs their use. Run over heels are not neat. It costs about 25 cents to have them straightened. Perhaps you or your brother can cobble. Edith's brother learned how. Keep shoes on shoe trees and well polished. It will prolong their life. It pays to have two pairs of shoes and alternate in daily use. Good polish or soap paste made of soap and water preserves shoes.

Pressing lengthens the life of a suit or skirt, as it keeps it in shape, and one presents a much neater appearance while wearing it as well as helping in conservation. If care is taken to hang clothing properly, less pressing is necessary. One can do this at home if one cannot afford to have a tailor do it (Fig. 167).

(*d*) **Pressing prolongs the life of a garment.**

The rule is to press on the wrong side unless using the steaming process; then the garment is pressed on the right side, but always with a dampened cloth over it. Wring the cloth dry and place it over part of the garment and press until nearly dry. After steaming all over on the right side, turn to the wrong side and press dry. Margaret Langley pressed her woolen skirt one day on the right side without a cloth. What do you suppose happened? Silk should be pressed with a warm iron, not a hot one. Colored dresses should be pressed on the wrong side.

FIG. 167. — Pressing helps to prolong the life of garments.

All spots should be removed before pressing. Girls should know how to remove all the common spots like sugar, milk, oil, and grease.

Instead of mending, the girls one day brought some garments with spots, and Miss Ashley taught them how to remove them. Sometimes if a garment is quite

spotted it pays to wash it, especially if it is made of wool, rather than to try to remove single spots. Here is a recipe of Mrs. Edwards' for washing woolen goods which are soiled and badly spotted. She washed her camping skirt in this soap solution with warm water. Sometimes she used the soap bark instead. She said that pure white soap was best for woolens and lukewarm water only, for both washing and rinsing. Wool is difficult to cleanse. Some day we shall study why, and also the reason why hot water is never used in washing woolen goods. This is her recipe:

(e) Removing spots adds to neatness of appearance.

Soap solution. Simmer one cake of white soap in two or three quarts of water. Do not boil it. Add the solution to the warm water.

Soap bark. 1 cup of soap bark or powder soaked two hours in three or four quarts of water. Strain and pour into the lukewarm water in which the material is to be washed. Wash, then rinse carefully in water of the same temperature.

Some of the girls had grease spots on their coats. Miss Ashley told them that lard could be used for removing wagon grease. After the use of lard, wash the spotted part in warm water. As a rule, though, grease spots can be removed by washing with lukewarm water in which some of the soap solution is used. Some grease spots can be removed with blotting paper. Place it on the right side and press the wrong with a hot iron. The paper

(1) How to remove grease spots.

absorbs the grease. There is another way of removing grease by dry cleaning or with chemicals. This is *dangerous* and should be done very carefully. The cleaning liquid is benzine or ether. If used near a fire or light, an explosion may occur. One of the mothers of Commonwealth City was very seriously injured because she tried to clean a spot at night by gas light. The benzine should be rubbed on the spot with a sponge of the same cloth. Place a piece of blotter or cloth under the spot to absorb the grease which is dissolved by the benzine. The grease will spread on the cloth if not absorbed. Fresh benzine must be used with each rub, or the grease removed will be rubbed in again. Rub towards the center to avoid a ring. The spot cleansed is usually lighter than the rest of the garment, which is probably soiled all over. Rubbing all over the surface near the spot will sometimes make the ring appear less noticeable. Commercial cleaners would better be consulted if the garment is delicate. They have every facility for removing grease carefully without danger of explosion or of injuring the fabric. Here are three simple rules which every girl should know:

Milk spots. Cold water and pure white soap will remove milk from many materials. Why cold water?

Sugar spots. Dip cloth in warm water, wash, and rinse thoroughly before pressing. What does warm water do to sugar?

(2) Other spots easily removed.

Machine oil. Wash in cold water and pure white soap. This removes most machine oil spots.

Some of the girls tried this very successfully at school, when oil spots from the machine appeared on the petticoat slips they were making.

Many of the girls have tried to follow the suggestions for care of clothing. Miss Ashley gave a mark for neatness of appearance. No one knew but Miss Ashley and the girl, and each one could find out if she wished why her mark was low or high.

Suggestions for Review

1. Have you any additional suggestions to make in relation to caring for clothing?
2. Try to remove a milk, sugar, or grease spot.
3. Do you think that the Sunnyside girls discovered why Miss Ashley always looked so very neat? Have you learned why?
4. How do you protect your clothing while working about the house?

Lesson 38

Removing Stains

Another day the girls brought some table linen to darn and patch, and learned how to remove some of the common stains. Try to do this in your laboratory.

1. Which is laundry day?

Miss Ashley told the girls that at her home in Michigan she always called Tuesday washing day instead of Monday. On Monday the clothes were sorted, mended if necessary, and soaked in preparation for washing on Tuesday. If there were any stains on table or other linen they

were then removed. Miss Ashley said that at her home they also prepared foods on Monday for use on Tuesday and Wednesday, and so made the other work easier on those days.

Fruit, tea, and coffee stains should be removed as soon as possible after the stain appears — if not then, at least before being put into the tub. Boiling white clothes sets the stains. Do you see why they should be removed at once?

II. Reasons for removing stains before washing.

Miss Ashley demonstrated for the girls how easily this could be done. Coffee and tea stains are most common on table linen. An easy way to remove them is to wash in lukewarm water, then dip in a solution of washing soda, and rinse very carefully to remove all soda. (Washing soda solution is made of one pound of washing soda to one gallon of water. Keep this in glass jars and use when occasion demands.) Tea stains can also be removed by rubbing the spot with the bowl of a spoon dipped in glycerine. Then wash carefully in warm water to remove the grease.

1. To remove coffee and tea stains.

Fruit stains are also very common. If the stain is on table linen or white cotton material, stretch it over a bowl and pour boiling water from a height through it (Fig. 168). On white wool or silk, lukewarm water is sometimes all that is necessary, or a little borax added to the lukewarm water. It is more difficult to remove fruit stains from colored materials. It is wise to experiment on the inside of

2. Fruit stains.

a hem or some part of the garment where it will not show. Make a spot of similar kind and experiment with different methods. One can often discover a method. An article of value should be sent to a professional cleaner. When Miss Ashley got some peach stains on her pongee silk dress she sent it to Alexander's on Main Street and told them what the stain was. Every particle was removed and no ring or marks were left.

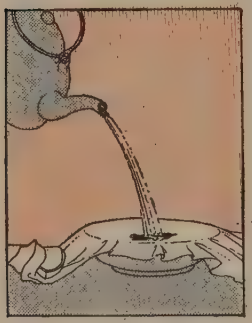

FIG. 168. — Removing fruit stains from a tablecloth.

3. Grass stains. *Grass stains* are easily removed if fresh. Cold water is then usually sufficient. If the stains are on material which cannot be washed, alcohol can be used. If the material is colored and can stand it, wash in warm water and ammonia, followed by washing in warm soap solution and very careful rinsing.

4. Rust stains. Mrs. Vincent sent over to ask how to remove *rust stains* from the table linen. Miss Ashley said that perhaps the best way was to wet the spot and apply a few drops of oxalic acid or cream of tartar solution or salts of lemon. The article must then be washed thoroughly. Why is this necessary? Water and lemon juice will often remove a rust spot. On colored or wool goods care is necessary. One must often decide whether one prefers the spots or the color removed.

One day Alice Alden was stitching and ran the needle through her finger. Miss Ashley soon bandaged it, but there were *blood stains* on her petticoat slip. When fresh they are easily removed with lukewarm, not hot water, and a little ammonia. 5. Blood stains.

School girls will sometimes get *ink spots* on their garments, too, when they are not careful. Inks vary in composition and so are often difficult to remove. Wash at once in cold water; this will remove many spots. Sometimes several rinsings in sweet milk, or soaking for several hours in sour milk, will cause the spot to vanish. The article must then be washed in warm water and soap to remove the grease. Again, try a paste of starch, lemon juice, and salt, for white goods only. If not successful with this, use Javelle water, which can be bought at a drug store. Wash the spot in the Javelle water and rinse very carefully. Repeat until the spot disappears. This is only for white materials, and careful rinsing and washing are necessary after its use. 6. Ink spots.

The girls practiced in groups, removing stains from some articles which Miss Ashley furnished. For the following lesson each girl had to remove a spot from some article at home, and tell how she did it.

Suggestions for Review

1. Do as the Richards School girls did: each brought from home a garment or article from which some spot had been removed and told how this was done.

2. Have you a plan of work for laundry day at your home?

Lesson 39

From what is linen made?

Some of the girls had been patching the linen tablecloth and napkins and removing stains from them. Miss Ashley said she thought that it was a good time to study about how linen is made, because one must know about the fiber one is treating in order to remove spots in the best way. Have you ever heard this very interesting story?

I. Some lectures about linen given in Commonwealth City.

It was announced that the Natural History Museum of Commonwealth City would offer three free lectures on the subject of linen. The following were the subjects chosen. Miss Ashley suggested that all the girls should go. She gave the first two lectures. The hour was Monday, from 4 to 5 P.M.

1. Linen, how it is grown and manufactured.
   Stereopticon lecture. Miss Ashley.
2. Common linen materials and their uses.
   Illustrated with materials and slides.
   Miss Ashley.
3. How to buy linen for the home.
   Illustrated, slides and materials. Mr. St. John, buyer for Smith & Jones' Department Store.

II. How flax is grown and prepared for manufacture.

Miss Ashley's first lecture was printed in the morning edition of the *Daily Mail* (Fig. 169). It was most interesting and all the girls bought copies to paste in their note-

Fig. 169. — Miss Ashley's lecture was printed in the town paper.

books. Miss Ashley had visited a relative in Ireland one summer and had had opportunity to study the manufacture very carefully.

Ireland is, as you know, a cool country and flax a plant which thrives best in cool climates. Isn't it fortunate that we have a clothing plant which grows well in a cool climate? Miss Ashley had a slide showing the map of Europe and pointed to Russia. She said that Russia before the war produced about half of the world's supply of flax. It was not perhaps so good in quality as that which was produced in Ireland and Belgium, where the best quality of fiber was formerly found. Miss Ashley pointed to Holland, Italy, and France and also to Egypt, which just showed on her map. She asked this question: Does the United States grow flax? Yes, but very little and only for the coarser purposes, as bagging, crash, etc. Can you tell why? Yes, for the same reason that silk is not cultivated. The cost of labor is high and flax needs much care when weeded and grown for its fiber. When flax is grown for the seed it does not require so much care.

1. The countries growing flax.

Have you ever seen a flax plant (Fig. 170)? Miss Ashley showed one, and then a whole field of flax plants growing. Perhaps your teacher will have a real plant to show you. The picture will give you an idea of how it looks with its lovely little blue flowers on the stems which branch

2. Flax is grown for seed as well as for fiber.

at the top. You know part of the flower falls off and dies and part of it grows into the seed pod. The plant grows from 20 to 40 inches in height. Miss Ashley told this story. She knew a man who thought flax fibers came from the seed pods at the top just as cotton bursts from the boll or seed pod. It does not, but comes from the long stem. So our linen fibers are not short like cotton, but long, sometimes 20 to 40 inches according to the length of the stem. The picture of the flax field made Dorothy Vincent think of her grandfather's wheat or oats field. It is a wonderful story how flax fibers are removed from the stems.

3. The appearance of growing flax.

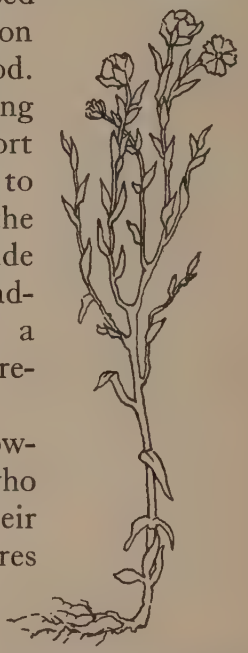

Fig. 170. — The flax plant has a small blue flower.

Flax in Europe is tended while growing by the women and children, who weed it and care for it on their hands and knees. It requires much care. When it is grown for fiber it is planted close together; but when for seed it is not planted so thickly, but has more room and is allowed to branch and bear many seeds. Flaxseed, we know, is very valuable and is used for paints and varnishes. The oil is squeezed from the seed and is called linseed oil. The meal cake which is left after the oil is extracted is used

4. The care of the flax while growing.

in the same way as the cotton-seed cake from which oil was extracted, — as a food for cattle (Fig. 171).

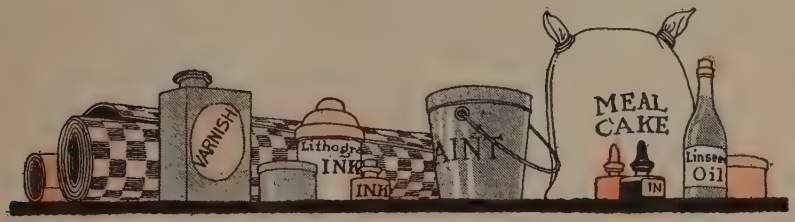

Fig. 171. — Some uses made of flaxseed.

When the flax grown for fiber is full grown, the flowers have vanished and the tiny seed pods on top

Fig. 172. — This gives an idea of how flax is pulled.

are beginning to ripen. The stalks or stems are brownish yellow, and the flax is ready to be pulled. It is not cut with a reaper, like our oats and wheat, and gathered into bundles. It is pulled up by the roots, by hand. The pictures Miss Ashley showed gave a good idea of this (Fig. 172). This is done in clear weather, and the roots are laid on the ground together so that the stalks are parallel. The stalks can then be bound together and stacked in shocks somewhat as we do our wheat in the United States.

5. Pulling the flax.

The next picture Miss Ashley called rippling. It showed the dried stalks being drawn over iron teeth like a comb, set in a wooden frame. What do you think this process did to the flax? Yes, all the seeds fell off and if a cloth had not been spread on the ground would have been lost. This process, called rippling, is done in the fields and all the seeds removed (Fig. 173).

6. Flax rippling, or removing the seed.

Fig. 173. — The children at school rippled some flax. What is removed by this process?

The next process Miss Ashley said was retting, or rotting the flax. After the seed is all removed, the

flax is tied in bundles. These bundles are placed in boxes or crates which are sunk in the streams and left under water for about two weeks. Before the Great War Miss Ashley visited Courtrai in Belgium, where she saw the flax retting in the river Lys. This is really the most important part of the flax manufacture. It means rotting the outside woody part of the stem in order to get the long flax fibers. This must be done without injuring the fiber. The woody part is of no value. Sometimes flax is retted by the dews, but this is a slower process than stream retting. The flax is left on the ground and the rain, air, dew, and sunshine help to decompose the outer woody bark.

7. Flax retting or rotting.

Perhaps you will do as the sixth-grade children at the Richards School did. They retted some stalks of flax in a tub in the classroom. Miss Ashley said that fermentation takes place when flax is retted, and the woody bark is decomposed. After the retting process flax is spread in the fields again to dry and is then ready for the process called breaking. So many things must be done before it is ready for the manufacturer's use! Did you know that your linen handkerchief or collar or napkin or tablecloth had such a very interesting history?

8. Flax breaking or scutching.

The next picture showed the flax breaking, which is nothing but removing the dry outer bark of the stem which was decomposed in retting. The machine for hand breaking is shown in the picture (Fig. 174).

This process is sometimes done by hand, sometimes large power machines do this breaking, as the flax passes between rollers. These power mills are called scutching mills, which means that they clean and break the flax to remove all the retted woody bark. After the flax is scutched it is clean, and the long flax fibers lie parallel, somewhat as a girl's hair does when it is combed.

FIG. 174. — The girls also tried some scutching or breaking. What does this do to the flax?

Miss Ashley at her lecture passed around some bundles of scutched flax. There were several colors, some gray, some yellow, and some of a greenish tint.

III. The appearance of flax magnified.

Have you ever studied how a flax fiber looks under the microscope? Miss Ashley had a picture which showed a flax fiber magnified (Fig. 175). It is rough and woody looking, as it is principally cellulose. Have you ever heard that word before? You will see that the fiber is marked with tiny markings or spots called nodes, and looks somewhat like the silk fiber when magnified.

How much work there must be in removing the long fibers of flax from the woody stem! They are ready then for the manufacturer to use. He may spin them into yarn to be made into linen cloth of many kinds, or he may make them into thread, rope, cord, lace, and many other useful things. Did you know that linen has been of use for many centuries? Look in the Bible and see if you can discover how old the industry is. Have you ever gone to a museum as the girls of Commonwealth City did and have you seen the mummies from the tombs of ancient Egypt wrapped in their linen grave clothes? We are told that long ago Pharaoh arrayed Joseph in vestures of fine linen. Do you know of any other discoveries which give one some idea of the antiquity of this industry?

Fig. 175. — Flax fibers magnified.

IV. The antiquity of flax.

Suggestions for Review

1. Write a story about how the flax was grown which was used in making your linen handkerchief.

2. Look up in the encyclopedia the history of the antiquity of flax.

3. Find out if any lectures will be given on the subject at your school or at the museum in your city.

4. Look at the flax fiber under the microscope.

Lesson 40

MAKING LINEN CLOTH

Miss Ashley continues the story about linen and tells how linen fiber is made into cloth after it has been scutched. Do you know the process?

I. Miss Ashley tells about the manufacture of flax fiber into yarn and cloth.

Miss Ashley said that she visited a factory in Belfast and saw the scutched flax delivered in large bales to the manufacturer to be spun. She said that the flax fibers measured from 20 to 35 inches in length. The problem then in spinning is to join and twist together these long pieces to make a continuous yarn. Do you remember that Edith Potter's grandmother had a flax spinning wheel, and long ago used to spin the yarn which was woven into linen sheets? Probably you have seen a flax wheel like the one in the picture (Fig. 106). You will notice that the flax is on the distaff. The spinner draws out the fibers from the distaff and feeds them to the spindle, as her foot works the treadle which turns the spindle. What does this turning of the spindle do to the flax? Yes, it twists it. Do you know that flax spinning long ago was done without a wheel? The picture shows how. The spindle was used alone and was revolved to

1. How flax yarn was spun long ago.

put in the twist. The weight of the spindle drew out the thread and it was wound on the spindle by the spinner (Fig. 176). The flax spinning at the mills to-day goes through very much the same process.

Fig. 176. — An early method of spinning.

The flax is opened and graded at the mill according to color and quality. It is then combed or hackled, as the process is called (Fig. 177). This is done by both hand and machine process. The worker draws the flax over the iron teeth of a comb like the one in the picture. The long straight fibers are called the line and are spun into yarn for the better materials. The combed out fibers are called the tow; it is not wasted but is put through a carding machine and made into yarn for coarse purposes. This process is sometimes called roughing. The long straight line is then ready for the machine hackling and afterwards for the process called spreading. The picture will give you an idea of flax spreading (Fig. 178). It means

2. How it is spun to-day.

(a) The first process is hackling or combing.

(b) flax spreading.

that the long bundles of hackled or combed flax are laid on a machine called a spread board, so that the bundles overlap. This is the beginning of spinning or of making a continuous yarn.

As the flax leaves this machine it is in the form of a rope of flax. It is brown and stiff, not soft like the rov-

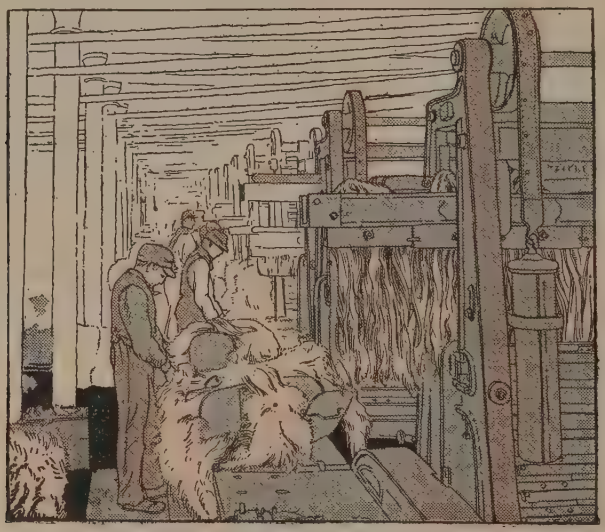

Fig. 177. — Flax hackling by machine.

ing of cotton as it leaves the carding machine. The cans are ready to receive the flax and the ropes are coiled in the cans as they leave the spreading machines. These cans of rovings are taken to a machine which winds them on spools and begins to put in a twist very much as cotton was twisted. The spools of flax rovings are placed at the top of the spinning frame and pass from these

over rollers which draw out and twist and wind the yarn on spools below. This is called spinning (Fig. 179). It is somewhat like cotton spinning, which you have studied (page 181). Miss Ashley said that it was a most interesting visit. The mill manufactured both coarse and fine yarns, in fact of many grades, and cloth of different qualities was woven from these yarns. This

(c) Flax spinning is twisting, drawing out, and winding the rovings.

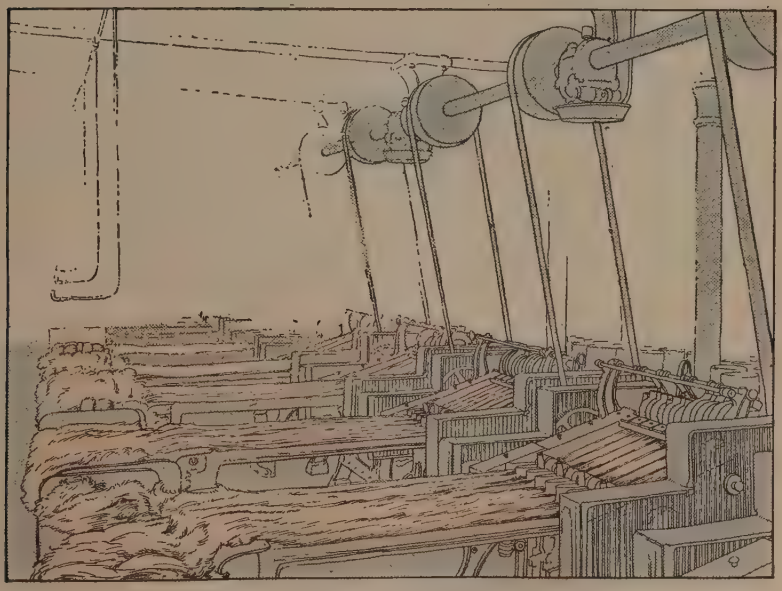

Fig. 178. — Spreading flax by machine.

was, of course, before the war. To-day the same firms are using cotton in the manufacture of table and other household linens. She saw linen thread made, too, by

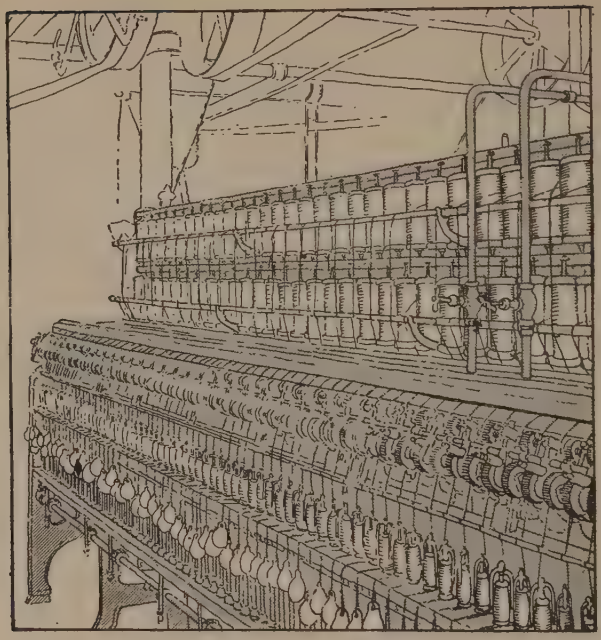

Fig. 179. — Flax spinning.

twisting two or three of the linen yarns together. Examine a piece of linen thread and see how many yarns there are.

3. How flax yarn is woven into cloth.

After spinning, Miss Ashley said, the spools of spun yarn were placed in a large spool holder or skarn and the ends from many spools taken and wound on a large drum to be prepared for warp threads for the loom. This is done in the same way as cotton or silk yarn is warped or prepared for the loom (page 265). Miss Ashley said that she saw some very fine linen woven by hand, but also

very beautiful linens woven by machinery, which has been so perfected that very lovely designs can be made. We have studied how the Jacquard loom can produce beautiful table damask and silk brocades (page 265). Modern looms of other types, too, produce lovely materials.

Miss Ashley said that many things were done to the linen after it was woven. She said that the linen was spread on the grass for bleaching, or crofting, as it is called. Great lengths of it could be seen for miles and miles through the country before the war. Do you remember how grandmother bleached her linen sheets? Did she use a chemical? What did the oxygen of the air do to the linen? What effect did the sour milk have on it? Miss Ashley told how linen cloth loses a fourth of its weight in the bleaching. Instead of the grass bleaching, chemicals are sometimes used to-day in bleaching linen.

4. Bleaching linen is a finishing process.

The linen cloth after it is white is brought back to the mill to be finished for shipping. It is washed in a machine called a rub board, then dried, and passed through another machine called a beetling machine (Fig. 180). This is to make the fibers stand out and look round. Cotton is sometimes treated to this process of beetling and made to look somewhat like linen, and is sometimes sold for it. Of course, Miss Ashley said, this finish wore off as the cotton material was washed, and it did not look like linen. It is of course not honest to sell cotton

5. Washing and beetling linen to finish it.

for linen, but since the war cotton has had to take the place of linen for many purposes. It is not wrong if the goods are labeled. Such material should be cheaper than linen, not more expensive. The linen cloth is then pressed or ironed, folded, and shipped in

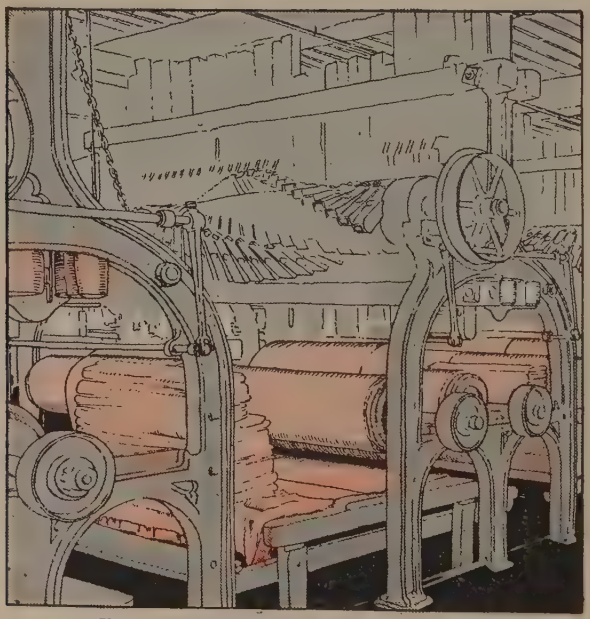

Fig. 180. — Beetling of linen in finishing.

bolts as we see it in the stores. Do you recall the lesson Miss Ashley gave the girls about buying household linens (page 93)? One must know many things about how linen is manufactured in order to purchase wisely. Are you not glad to know as much as the Sunnyside girls?

Suggestions for Review

1. If possible visit a factory where linen thread or cloth is made.

2. Try to plan for a talk on linen manufacture with stereopticon slides. At the Commonwealth City schools the girls and boys often did the lecturing and with the teacher's help secured the slides.

3. Plan an exhibit of pieces of beautiful linen, either plain or with pattern, coarse or fine. Perhaps some of the parents have some samples of old hand-woven linen to show.

Lesson 41

SOME LINEN MATERIALS

The Sunnyside girls catalogue some of the linen materials. Can you do this, too?

Miss Ashley brought out her scrap bag and turned the contents in two piles on the table. The girls noticed that the materials in one pile looked fine and sheer and in the other pile heavy and coarse. Miss Ashley said that she wished all of her girls to be able to identify these common ones (Fig. 181).

I. Some common linen materials all should know.

The first one she pinned up on the screen was toweling; everyone knew that. Its name is *huckaback*. We have learned it in studying cotton. Yes, it is woven in a pattern so that much of the filling thread shows on the surface. This makes the cloth absorb easily. It costs from 40 cents a yard up, according to quality and width, and is woven 18 inches

1. Huckaback for toweling.

and wider. It is made in all linen and all cotton and sometimes a combination of the two.

The second piece was known by all. It was table *damask* for napkins and tablecloths. One can spend a great deal of money for beautiful linen. Tablecloths are woven by the yard or by the cloth, one yard wide or wider. Damask towels are woven 16 to 36 inches wide. What a lovely material and such beautiful patterns! Sometimes cotton is made into napkins and towels with damask pattern, especially since the war. Sometimes one can buy a combination of cotton and linen.

2. Damask or table linen and toweling.

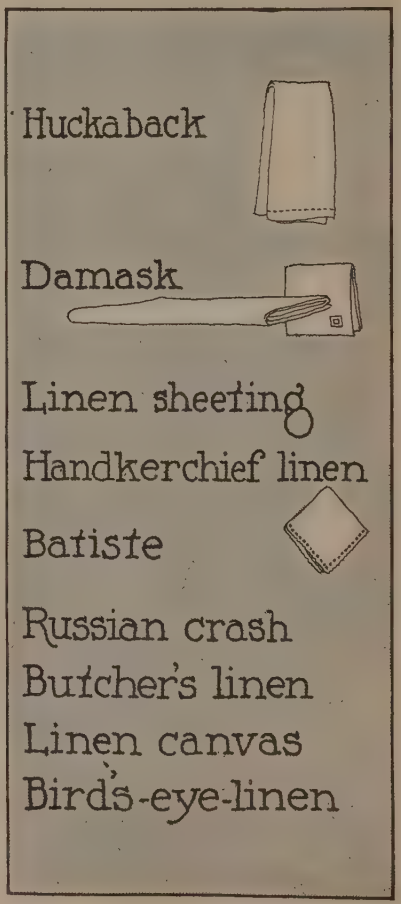

FIG. 181. — Some common linen materials.

Miss Ashley held up a very wide sample. Yes, it was linen *sheeting*. It was not hand-woven and bleached like Grandmother Potter's but was

3. Linen sheeting.

made by machinery. It costs from $2 per yard up, and comes in several widths. Sometimes dresses and uniforms are made from it.

The fine sheer one was *handkerchief linen* and the thin one hanging near it was linen *batiste.* They are used for dresses and waists, too, as well as for handkerchiefs. They are very fine and sheer, and of plain weave, you see. Batiste is made of cotton, too, and is then cheaper. These are both expensive and cost from $1 a yard up to $3 and $4, according to quality and width. They are woven one yard or even wider.

4. Handkerchief linen and batiste.

The very heavy piece was Russian *crash,* which some of the girls used for their hemstitched table runners. It costs from 30 cents a yard up. Do you like its brown, unbleached color? It is used for dresses, toweling, and upholstery uses, too. It is woven from 18 to 36 inches wide.

5. Russian crash.

The other heavy piece was *butcher's linen.* It is coarse and is used for dress skirts. Butchers sometimes use it for aprons, too, because it wears very well. It costs from $1 to $1.50 per yard and is woven 27 to 44 inches in width.

6. Butcher's linen.

Dorothy Vincent held up a very stiff piece and asked its name. It was *linen canvas,* which is used by tailors for interlining of cuffs and collars of coats. It comes 27 to 36 inches wide and costs 50 cents per yard.

7. Linen canvas.

Miss Ashley had only one other common one which

she felt all the girls should know. It was a bird's-eye pattern, which is used for toweling. This weave is made in cotton, too. Do you recall studying about it? It is 24 inches wide and costs about 50 cents a yard.

8. Bird's-eye linen.

Miss Ashley again appointed a committee to have charge of mounting and cataloguing the linens. How fine the cotton and silk pieces look in the box mounted and labeled!

Suggestions for Review

1. Examine your school scrap bag. Try to find pieces of all the materials named in this lesson.
2. Plan some method of cataloguing the samples.
3. Try to find other linen samples besides those mentioned.

Lesson 42

A laundry lesson

Miss Ashley thinks that the girls should learn to wash and iron the table and bed linens which they have been mending. Have you ever tried to do any laundry work (Fig. 182)?

Margaret Langley knew a girl who was once a pupil at the Commonwealth High School. She enjoyed her laundry lessons there so much that she kept on doing laundry work and is now so expert that she makes a specialty of laundering fine shirt waists and babies' clothing. She has all the work she can manage and hopes soon to have an assistant. She

1. Laundering is interesting and profitable work if well done.

finds that it pays better, too, than working as sales girl in Smith & Jones' department store.

Cleanliness adds to our comfort, but we all know that it costs time, money, and energy. Laundering, if properly done, conserves clothing and one will think of this if one is thrifty. We can wear our underclothing sometimes without ironing it, if it has been washed clean, for it will smell fresh and sweet. Towels, too, can be washed and dried if one has no time for ironing them. Table linen, though, must be washed, boiled, and ironed to look well. Have you ever tried to do this?

II. Cleanliness is costly.

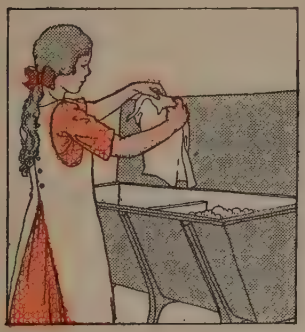

FIG. 182. — The Sunnyside girls enjoy their lessons in laundering.

Linen is a vegetable fiber and like cotton can stand the heat and friction of much rubbing. White cotton and linen will resist chemicals, too, and can be boiled, starched, and ironed because the material is so strong. Colored clothes should not be boiled or dried in the sun if one would conserve, — they will fade. Ironing on the wrong side prevents fading.

Before washing table linen all spots should be removed. In order to remove grease spots from a family tablecloth soak the cloth in soda water (one cup of soda water, the dissolved solution, to a pail of water, see page 289).

After the stains have been removed, soak the cloth, adding soap. This helps to loosen the dirt and it is unnecessary to rub so much and wear the cloth. Soaking and boiling help to save cloth. Much rubbing wears the clothing. This is the order of procedure to follow in laundering the table or bed linen and towels. Follow this carefully and you will have success.

III. How to launder table and bed linen.

1. *Soaking.* Soak the table or bed linens about 1½ hours in cold or lukewarm water. Soap is really not necessary, as the linen is not as a rule very dirty. All stains should have been previously removed.

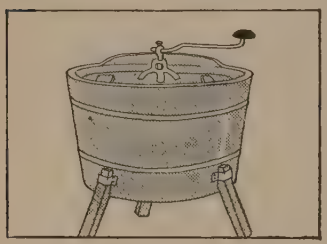

FIG. 183. — Have you ever used a washing machine?

2. *Washing.* Wash with soap on both sides, rubbing on clothes board or use washing machine. Use hot water.

3. *Rinsing.* Rinse and soap again to be placed in the boiler. The dirt is carried away by this rinsing.

4. *Boiling.* Put the soaped articles in clear cold water. Boil briskly for five minutes. Add enough soap to keep a suds while boiling; save small pieces for this purpose. Stir clothes and press with a stick. Remove from boiler, after boiling actively for five minutes. Put in clean hot water, then in cold. Rinse once or twice again thoroughly before bluing.

5. *Bluing.* Make the blue water from some good

blue. Do not make it too deep. Test on a small doily. Stir the blue before each article is dipped, so that it may not appear streaked on the clothes. If articles are very yellow, it may be necessary to let them stand in the blue for a little while. If not yellow, dip two or three times.

The next process is starching; but it is not as a rule necessary to starch napkins, tablecloths, or bed linens.

6. *Hanging.* Hang very straight after stretching. Do not pin at corners. Hang a third of the napkin or tablecloth over the line.

7. *Sprinkling.* Table linen must be sprinkled evenly. Sometimes it can be taken from the line when half dry and the process of sprinkling omitted.

8. *Ironing.* Linen should be ironed damp and until dry. This makes the pattern stand out and gives a shine and gloss to the linen. It takes the place of starch.

9. *Folding.* Iron napkins partly dry on wrong side; then turn to right side and iron dry. Fold edges evenly. In the lengthwise fold do not fold quite to end, as in the final fold the napkin, handkerchief, tablecloth, or sheets will appear uneven at the edges. Fold the tablecloth or napkins with selvedges together. Tablecloths may be folded with three or four long creases.

Natalie Underwood laundered all the napkins and the tablecloth after the birthday dinner given in honor of Grandmother Underwood. Do you think you could do this?

Suggestions for Review

1. Try to launder six napkins all alone, following the above method.
2. Have you any mechanical helps which you use in this process? What are they?
3. If you have a washing machine, tell how it is used (Fig. 183).
4. What kind of irons do you use? How much does the heat cost on ironing day?

Mrs. Vincent is Looking Over the Family Wardrobe.

CHAPTER V

THE COST OF CLOTHING

Miss Ruth Ashley has just returned from a short lecture tour which she has been making throughout her state. The State Board of Education has asked her to give some talks on thrift.

Much has been said about saving food to send overseas to those in need, but Miss Ashley thought that it was time to emphasize the conservation of clothing and other materials, too, in this thrift campaign. Miss Ashley believed that much unnecessary clothing is bought and that girls should be trained to select only that which is necessary, which will wear well, and which is attractive. She believed in wearing out old clothing so that manufacturers during the period of readjustment need not make unnecessary women's wear. Simplicity in dress and living are Miss Ashley's mottoes. Time is saved both in making and in laundering if clothing is

I. Women as consumers of materials.

1. The way in which girls may help.

simply made. It is certainly unwise and in bad form to live or dress extravagantly at any time. Happiness really does not depend on luxurious living. Luxuries are things for which one spends money, that are not essential for health or efficiency.

Miss Ashley has this quotation from one of President Woodrow Wilson's speeches posted on the classroom bulletin board. "I suppose not many fortunate by-products can come out of a war, but if this country can learn something about saving out of the war, it will be worth the cost of the war, I mean the literal cost of it, in money and resources."

Do you understand what our President meant when he spoke of by-products of the war? Ask your teacher to explain.

Miss Ashley tried to teach the girls of the Ellen H. Richards School to be thrifty and thoughtful consumers of clothing. Would you like to know what she had to tell her girls? She wished them to be particular about their personal appearance at all times, for being appropriately dressed helps one in achieving success in life. No one wishes to employ in the office, shop, or home, a girl who is untidy or inappropriately dressed. Cleanliness and neatness are great helpers, and one is not well dressed unless she thinks about these things. One must know also how to choose colors which are becoming in materials, or articles of ready-made clothing, and should know what is suitable and appropriate for

2. What are thrift and beauty in clothing?

various occasions. This is a study in buying and if one knows how to shop wisely, the cost of one's wardrobe will be reduced. This is absolutely necessary economy in these days of the high cost of living. The Sunnyside girls knew, too, that learning to make some of their articles of clothing would help to reduce the cost, and they were all eager to learn how to be healthfully and attractively dressed when little money was available and materials were scarce.

Lesson 43

SOME HELPS IN SELECTING CLOTHING

Mrs. Vincent says that she often wonders if she is purchasing wisely when she selects the clothing for her family. She was present one day at school when Miss Ashley and the ninth grade girls discussed this subject. Shall we learn what they said (Fig. 184)?

Miss Ashley believed that a girl's habit and taste in dress could be developed during the high school period if she had the wise and helpful guidance of an instructor or someone who had good taste and judgment in dress. Have you ever seen girls in your high school who wear high heels, very transparent blouses, cheap jewelry, thin silk stockings, and even paint and powder? Often girls who are ignorant dress in this way and also arrange their hair in queer fashions which are neither artistic nor becoming. In their ignorance and vanity and unwise selection they have thought themselves beautiful.

1. Good taste in dress can be developed.

Every girl craves beauty and should have it, but she should be taught what is true beauty in clothing and adornment. Simplicity, genuineness, neatness lacking fussiness, and daintiness, are certainly characteristics of the clothing of the true American girl. That which is artificial and cheap, Miss Ashley said, cannot possibly be her choice. Garments which are ugly are inexcusable, and our schoolgirls of America should learn to select garments which are pleasing to look at, well cut, of good material, and appropriate for the occasion. Comfort is one point Miss Ashley and her girls talked about especially, for in selecting clothing freedom of movement should be a big consideration. It is certainly a handicap to be uncomfortable.

1. Some characteristics of good taste in dress.

FIG. 184. — Miss Ashley believed that a girl can learn how to dress neatly and attractively.

Miss Ashley discussed with the girls these points to be kept in mind in selecting their clothing. Shopping wisely is not easy when cost of living is high, and Mrs. Vincent, while in class, found the points emphasized by Miss Ashley so helpful that she asked her to repeat her talk to the Mothers' Club. Here are some of the points she discussed.

Miss Ashley said that we often do not stop to think that one of the greatest industries of the United States

and of the world is that which supplies our homes with clothing and household textiles. It is the women of the United States who do most of the buying for their homes and who are the chief consumers. They spend about a billion of dollars every year for textile materials alone. It is our women who must know how to select durable materials or suitable garments ready-made; they must know how to make the dollar buy the most and best things, as well as how to utilize, care for, and conserve the materials on hand through wise remodeling, darning, and patching of clothing to prolong its life. Never before in the history of the world has it been necessary for woman to know so much about materials, in order to select the necessities of life, to provide her family with appropriate food, shelter, and clothing. This is woman's time to show her ingenuity in thrift and in the preservation of the essentials of life.

2. Some suggestions for use in buying textiles.

(*a*) Knowledge of conditions is necessary.

1. Miss Ashley emphasized her first point very emphatically. She said that if one is to be truly helpful one must be well, and being *properly clothed* is a problem in healthful living. One is a slacker if she is not well in these times. This means wearing comfortable and hygienic clothing. Have you thought about this in selecting corsets, shoes, and the underwear which is worn next to your skin?

(*b*) One must select clothing conducive to health.

2. Experience is a good teacher, but Miss Ashley

told the girls that one pays for knowledge so gained. It is much easier and a great saving of time, money, and energy if one learns beforehand what to guard against in buying clothing and household textiles. One must know about textiles if one is to purchase them wisely. Ignorance means an increase in the cost of living because of wasteful buying. From 10 to 20 per cent of the family income may be spent on clothing. Do you know if you are *spending wisely?* The Sunnysiders are studying also about textiles. Read in this book what they learned about how materials are manufactured.

(*c*) **Knowledge about textile manufacture helps.**

3. *Know your needs* before going to the store. Patronize reliable firms. Keep a list of the family needs and know the articles required for each member of the family. An inventory of the wardrobe is helpful; one knows then the real needs of each one. Buy new materials only because you have none at home which can be utilized.

(*d*) **Know your needs before going shopping.**

4. Remember that it pays to get a good quality of cloth and to have fewer garments, rather than many cheap ones. Cheap materials cannot be expected to endure. Buy standard materials. It takes just as much time to make up poor as good material. This will save cloth and time in making. Before going to buy material for a garment plan how it is to be made and so purchase only the amount needed. Left-overs are waste.

(*e*) **Good material saves labor and cloth.**

5. Do not be beguiled by advertisements and bargain

sales. They are seldom worth while, for one often buys what one does not need. Fads are usually placed "on sale" and as a rule prove very expensive and are seldom becoming. One soon feels like replacing them. Study your own style and buy for it rather than in accordance with the passing fashion.

(*f*) Fads and bargains are as a rule expensive.

6. Telephone and mail orders may save one many hours if one is sure of what she wishes. Well-illustrated catalogues if sent out by reliable firms are often helpful if one has studied textiles and prices and can judge whether the price warrants the purchase.

7. Garments if made at home usually cost less and wear better. Dorothy Vincent thought that the ready-made ones were more attractive. That depends on how skillful the home dressmaker is at her work. It is true that garments bought ready-made save much time and inconvenience at home. It often pays to buy ready-made, but one must be able to judge materials and good styles. Garments which are overtrimmed, or poor in construction, line, and color are not worth buying (see Fig. 201). You will wish, as the Sunnysiders did, to study textiles and clothing design in order to be good judges of ready-made garments. In buying ready-made washable garments one should always think of the time required and the ease of handling in laundering. Underwear should be of good firm material, such as long cloth or muslin, which can be boiled, and simply made to be laundered easily.

(*g*) Home-made *versus* ready-made clothes.

Plain, simple, durable trimming is more suitable and wears longer than thin, fussy laces and ribbon-bedecked garments.

8. Miss Ashley said that one should choose garments which are adapted to one's ways of living and which will answer two purposes if possible. Occasions of many kinds may mean many garments unless one selects with care those which will answer several purposes.

9. Buy after the rush season, — a summer suit or dress in July or August, or a winter suit or hat in January or February. This means planning one's wardrobe in a systematic way.

(*h*) **Buying after the rush season saves money.**

10. Miss Ashley said that it is economy to make over garments rather than to buy new, if the materials warrant it and are appropriate in pattern and color for the new purpose. It is economy when the cost of new material is saved and the time in remaking is not greater than the cost saved in material (Fig. 185).

(*i*) **Making over some garments is a saving.**

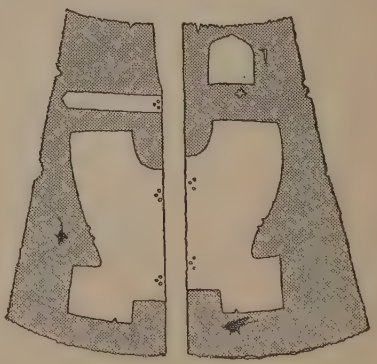

Fig. 185. — These rompers were made for baby Vincent from an old dress skirt.

11. Miss Ashley told the girls another of her secrets. She always bought the conservative styles in ready-made suits or coats. They can be worn longer. She also

(*j*) **Conservative styles *versus* fads.**

planned to buy garments which would harmonize with the rest of her wardrobe, rather than glaring contrasts. Some people adopt a few colors, sometimes one or two only, and always buy in those tones which harmonize.

Miss Ashley told the girls that she had given them only a few suggestions in relation to buying clothing, but that later she would have another lesson on this subject.

Suggestions for Review

1. Plan to itemize your wardrobe. Take an account of stock, as it were, and decide how many garments you can utilize fully, how many you can afford to give to someone else, and decide what you actually need in the way of new garments.

2. Give your opinions about buying ready-made clothing. When do you think it pays?

3. Give five suggestions to be kept in mind in going shopping for clothing.

Lesson 44

THE GIRLS LEARN TO MAKE BLOOMERS AND A RED CROSS GARMENT

Miss Ashley has planned so that the girls work one day each week on the Red Cross garments. She says that the stitches, processes, and finishes on the bloomers are the same as on the Red Cross garments. After she had given instructions for making the bloomers all the girls were able to make the Red Cross garments: chemise, nightgown, and child's underwaist. Can you also do this?

Most of the girls had decided to make their bloomers of blue serge (Fig. 186). Margaret Langley used

sateen, and Dorothy galatea. Black or blue are the most serviceable. The pattern chosen by Miss Ashley was a simple one and she ordered a 16-year size as some of the ninth-grade girls were rather large and others small and this pattern could be adapted to the whole class.

I. The material for the bloomers.

The girls studied the pattern and noticed the perforations, which must be placed lengthwise on the warp threads of the cloth. After studying your pattern can you place the cloth so as to cut both legs at once? Can you tell where to place the two strips for the bands and for the placket facings? Which way of the cloth will the length of band and facings be cut? Pin all carefully and cut evenly. Mark the notches with a pencil or thread. Girls sometimes spoil garments by cutting the notches too deeply.

II. Making the bloomers.

1. Placing the pattern.

Fig. 186. — Bloomers are easy to make by machine.

2. Flat felled seams are used on the bloomers.

The bloomer legs are to be sewed with a flat felled seam (Fig. 187). Baste legs on right side with seam $\frac{1}{2}$ inch wide. Stitch by machine, directly under the basting. Margaret Langley

was not careful and turned both seams for the same leg! After stitching cut off one edge to within $\frac{1}{8}$ inch of the stitching. Then turn the other edge of the seam down flat on the cloth for a fell. Turn in the raw edge $\frac{1}{8}$ inch, baste, and stitch flat right on the edge.

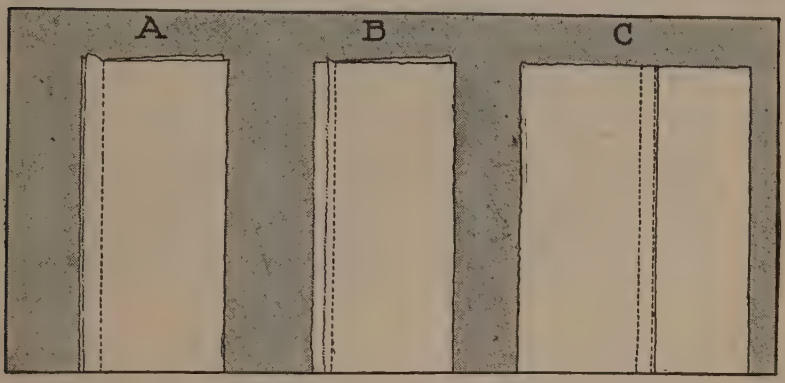

Fig. 187. — Steps in making the flat felled seam.

Be very careful, for it is easy to wrinkle this and have a fulled instead of a flat seam.

Next join the two legs together with this same flat felled seam. Be careful to match the seams evenly at the seat.

Next at the bottom of each leg make a hem 1 inch deep when finished. Baste and stitch this, leaving 1 inch open for running in the elastic band. Run in the elastic, sew the ends together securely, and finish hemming the bottom hem by hand.

3. Hem bottom of legs and run in elastic.

The placket openings are at the hips (Fig. 188). Use

strips of cloth for these facings, cut lengthwise of the cloth and 1 inch longer than twice the length of placket opening. If cut $2\frac{1}{2}$ inches wide this binding or facing will be 1 inch in width when finished. Begin at top of bloomers at placket opening. Hold right side of strip to right side of bloomers. Baste with $\frac{1}{4}$ inch seams all around the placket opening. Stitch, remove basting, turn to wrong side. Turn under $\frac{1}{4}$ inch, baste edge even with first stitching, and stitch again. Be careful to take enough seam at the bottom of the opening or it will pull out.

4. Facing the placket openings.

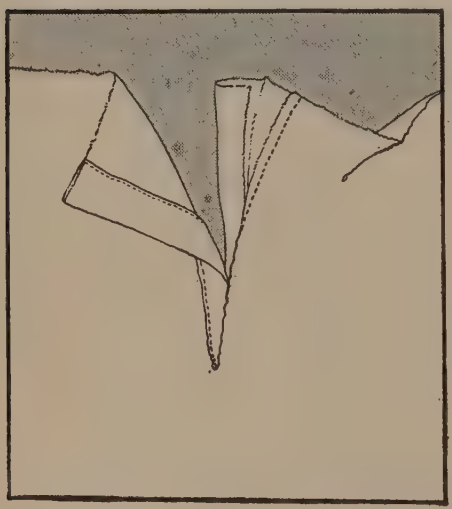

FIG. 188. — The continuous placket facing used on the bloomers.

There are two bands, a front and a back band. If your pattern allows for fullness gather to fit half of the waist measure. Use one gathering thread, $\frac{1}{4}$ inch from the edge. Measure your waist, half of the measure for each half of band ; allow 2 inches for lapping on the back band. The front band is usually shorter than the back. Cut the band $2\frac{1}{2}$ inches wide. Fasten bloomers so that they lap towards the front.

5. Putting on bands.

To put on the band work in same way as in putting band on petticoats (page 225) except that this band is turned to the right side to give the tailored finish to the flat felled garment. Begin by placing the right side of the band to the inside of the front and back portions of the bloomers. Baste, stitch, turn to right side. Close with snaps or buttons and buttonholes (see page 166). Buttonholes may be placed at center front and center back if bloomers are to be fastened to a waist. How shall the buttonholes be placed in the bands?

6. Making the fastenings.

Only the most experienced sewers in the class used serge. The placket facings then were made of black sateen or lining, also the bands, as these were less bulky than the serge.

After this the girls had much practice in making flat felled seams on the Red Cross garments. After the lessons on making the bloomers they made the Child's Underwaist or Shirt, McCall pattern, No. 101, the Child's Nightgown, McCall pattern, No. 102, the Child's Dress, McCall pattern, No. 90, also the Girl's Chemise, Butterick pattern, No. 110. These were all made according to the Red Cross Manual directions[1] and sent through the Red Cross to the refugee children of France and Belgium.

[1] Teachers' Manual, Junior Red Cross Activities, American Red Cross, Washington, D. C.

Suggestions for Review

1. Describe and draw pictures of a flat felled seam. Ask your teacher to show you how to make this by hand if you have no machine. The first sewing will then be two runs and a back-stitch and the turning will be felled flat with the hemming stitch.

2. Describe the making of one of the Red Cross garments on which the flat felled seams are used.

3. What provision are you making in your school for sewing for others? How many garments have been produced? All children can help.

Lesson 45

Common Wool Materials

All of the Sunnysiders have been collecting pieces of old wool for the Red Cross. Miss Ashley says that they must learn the names of the different kinds.

I. Sorting the wool samples.

Molly and Margaret were asked to sort the pieces and to place the thin, sheer-looking pieces in one pile and in another the thick, close materials which were firm. There were others which looked strong and wiry, but which were not quite so closely woven as the thick ones. Would you, too, like to learn their names? The girls examined first the pile of wiry, loosely woven ones. Yes, there were several pieces of serge. Some were fine with the twilled weave, and others were coarser in weave and twilled. Both were very serviceable looking pieces and very suitable for bloomers or for school dresses. Dorothy discovered in the pile a sample of plaid serge

1. The wiry, loosely woven ones.

which she had had two years ago for a dress. Serges are woven quite wide, from 42 to 54 inches, and cost before the war $1 to $3 per yard. A good serge now costs from $2 to $5 per yard. Cheviots are very similar to serges in price and width but are somewhat heavier in appearance. The surface of some is rather rougher than serge, although there are smooth cheviots, too. Miss Ashley had some samples of serges suitable for bloomers, and the girls examined those carefully because many had chosen serge (Fig. 189).

(a) Serges, tweeds, homespuns, etc.

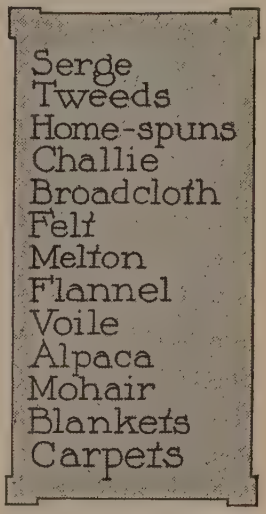

FIG. 189.—The Sunnyside girls were able to recognize all of these wool materials.

There were also in the same pile some samples of homespuns and tweeds. They are common ones, and both are rough, wiry, and loosely woven, and made of rather coarse yarn. They are rather open in texture. They were both spun and woven by hand in early days, and even before the war some were hand woven. Tweed gets its name from a place in Scotland. Such materials are very serviceable, especially for coats, dress goods, and suitings for rough wear. The color or pattern is not always clearly defined, as the yarn of which it is woven is mixed in color. Homespuns are slightly cheaper than serges.

They cost from $1 to $3 per yard before the war, but are at least $2.50 to-day. Homespuns are woven from 42 to 50 inches wide, and tweeds, which are slightly wider, are a little more expensive in price.

Miss Ashley found in this pile four other materials which she held up for the class to see. They were not quite so heavy as the tweeds. They were cashmere, henrietta, challie, and albatross, all common standard wool materials. Have you ever heard such names before? They are often used for girls' school dresses, wrappers and dressing sacks, and for baby wear. They are all softer than serges, and cashmere and henrietta resemble each other, as both have a twilled weave. Henrietta was originally woven with a silk warp. Miss Ashley had a sample to show of Grandmother Edwards' old gown. Cashmere is also soft, and the finer qualities are made from hair of the cashmere goat. Cashmere is woven 36 to 45 inches in width, and could be bought in good quality before the war for from 75 cents to $2 per yard. Henrietta was about the same price, except when it had a silk warp. To-day both cashmere and henrietta have about doubled in price.

Challie and albatross are about the same in weight. Mrs. Langley had made Margaret a pretty challie dress for school wear. Challies are figured; sometimes the pattern is printed and sometimes woven in. It is made of a mixture of silk and wool or cotton and wool. Challies can be bought in all cotton, too, and used to be

made of all wool. They are woven about 30 inches in width and cost from 75 cents to $1.50 per yard.

Albatross is also used for dress goods and costs about the same as challie. It is woven 38 to 45 inches in width, has a fancy weave, and is soft in texture.

Miss Ashley asked the girls to study some of the thick, heavy ones. Edith recognized one; its name is broadcloth and it is used for coats and dress goods. This was a heavy broadcloth. There are also some lighter weights with a smooth, satiny finish. They are called lady's cloth. A good broadcloth is always expensive. One used to be able to get it for $1.50 or $2 per yard, but to-day it costs much more. It is closely woven and is smooth and soft in finish. It is woven from 50 to 58 inches in width. Do you know anyone who has a dress or coat made from it? Examine the garment and inquire whether it has been durable.

(2) The thick, heavy samples.

(a) Broadcloth, melton, covert cloth, felt, etc.

Mrs. Vincent's winter coat was made of melton and Mr. Edwards had one of covert cloth last year. Both are caring for them, as they cannot be easily replaced now. Examine the samples and see how heavy they are. Melton comes about the same width as broadcloth and a good quality used to cost $4 per yard. It is used for suits, overcoats, and uniforms. It is a standard material, and is usually dark blue or black in color. Covert cloth is used for the same purposes. It has a heavy twilled weave and differs from the smooth surface of broadcloth.

In the same pile of heavy materials Edith found a piece of felt and also a piece of flannel. Felt, you know, is not woven but is compressed so that the wool fibers are matted together in a flat mass. It is made 24 to 50 inches in width and used to cost from 80 cents to $1.50 per yard. Some of the girls still have school pennants made from it. It was used also for covers for table tops. Of course to-day wool is conserved for other uses.

Flannel was placed in the heavy pile, but there are also light-weight flannels. Flannel is woven and is finished with a soft surface which is slightly napped. What does that mean, do you know? Flannel is used for many purposes. Can you name some? Yes, shirts for men, baby garments, waists, dressing sacks, etc. It was sometimes made of a combination of cotton and wool instead of all wool, even before the war. It varies in width, from 27 to 36 inches, and costs to-day from $1.25 to $2 per yard.

Mrs. Edwards came in as the girls started to discuss the wool materials in the third pile, which were thin and gauzy. Mrs. Edwards had on a voile dress. It was thin and gauzy, like veiling, but was not transparent. Nun's veiling was another thin sample. It has an open mesh and is a common wool material. Both are used for dress goods and are made in solid colors. There were printed voiles, too, in the pile, but they were made of all cotton. Wool voile costs from $2 to $4

3. The thinner, more gauzy wool samples.

per yard. It is 42 to 45 inches in width. Nun's veiling is narrower — 36 inches wide — and is slightly less expensive.

Grenadine and etamine were also in the pile. Both are similar to the voiles, of open mesh weave, and are used principally for dress goods.

Wool bunting was a familiar sample to all. It is an open mesh weave. An American flag, which was made of this material, was kept floating above the Ellen H. Richards School. Wool bunting costs about 75 cents per yard in a 24-inch width. It is sometimes made from mohair.

Marjorie had brought some samples of her grandmother's last dress. It was brilliantine, Miss Ashley said, and she held up, so that all might see, two other samples which she called alpaca and mohair. They all felt very wiry, and not at all soft like the wool serges and cashmeres. Miss Ashley told the girls that they were made from the hair of the Angora goat. They wear very well, shed dust, and are used for dresses and dust coats. Alpaca is made from the hair of the llama, which is bright, elastic, and strong. All these materials are bright and glossy. Before the war they cost from $1 to $2 per yard and were woven in the following widths:

4. Brilliantine, mohair, and alpaca made of hair.

Alpaca	36 to 45 inches
Brilliantine	54 inches
Mohair	40 to 54 inches

The Sunnysiders catalogued all of these common wool materials with their uses, prices, and widths. They classified them in three groups as they were discussed, and the alpaca, mohair, and brilliantine were arranged in a separate class. Dorothy said that she knew of other common wool materials which had not been placed in any of these groups — carpets and blankets.

Blankets come in many grades: all wool, which cost to-day about $15 for a pair, to all cotton, which to-day are $4 per pair. There are also combinations of cotton and wool which can be obtained in different grades.

5. Blankets.

Carpets are made also from wool yarn. In weaving the loom arranges the yarn so that it stands up in loops, which are then cut as in velvet carpet. Brussels carpets are woven in loops, but are not cut as the velvet ones are.

6. Carpets.

The Sunnysiders were eager to know the story of how this wonderful wool fiber given by the sheep and goats could be manufactured into so many different kinds of wool materials. Miss Ashley said that some of the lessons in the near future would tell the story.

Suggestions for Review

1. Catalogue your samples of wool. Have you collected for "Bundle Day"? From these pieces you can select representative samples.

2. Learn the names and uses of 10 common wool materials in use in your home.

Lesson 46

HOW WOOL IS GROWN

Barbara asked Miss Ashley to explain about the manufacture of serge, which material is being used for the bloomers. Miss Ashley said that she would, but that she would tell them first about the growth of the wool.

Miss Ashley had been spending her vacation at a lovely farm in the New England States. She told the girls how peaceful it was, and how she loved to watch the sheep grazing and storing up the energy to be converted into food and cloth- I. The sheep industry.

Fig. 190. — What facts do you know about the wool industry of the United States?

ing. How grateful we should feel for this patient animal which gives us so much!

Some sheep farms, especially in our western states,

are very large, and the sheep industry is very important. Montana, Idaho, Wyoming, and Oregon support millions of sheep. This is certainly a large family to care for (Fig. 190).

The sheep gives the fiber called wool. It is a variety of hair, and hair varies in fineness. The coarser varieties of hair are obtained from the camel, the alpaca, and the Angora goat. If you have a microscope in your classroom and will examine both fibers you will see how wool differs from hair. The surface of the wool fiber appears to have tiny scales overlapping one another like those of a pine cone. These are called serrations. Notice the picture of the wool fiber magnified (Fig. 191). It is on account of these wonderful little serrations which close up when in hot water that one must be careful in laundering woolens. Barbara was very unfortunate. Before she learned about this characteristic of wool she washed her white sweater in hot water. When she finished it was only big enough for baby John.

II. Sheep give the wool fiber.

(*a*) Hair is obtained from the camel, the alpaca, and goat.

(*b*) Appearance of the wool fiber.

FIG. 191. — Notice the scale-like appearance of the wool fiber. Of what use are these scales?

Wool looks wavy in length. It is fine and has a luster, while hair has a smooth surface and lies straight.

Many countries besides America grow wool for clothing. Australia, South America, England, South Africa, Spain, and Germany are the principal ones. The wool industry is very old. We read in the Bible about King David of Israel, who wrote psalms as he tended his sheep on the hillside, so we know that wool was used long ago. Can you find the Bible story about Abel, who was a keeper of sheep? Pliny, Homer, Virgil, and Alexander, the writers of many ages, tell us about wool and about beautiful woolen shawls made in the East.

III. Countries growing wool.

Miss Ashley told the girls about sheep shearing on the farm where she visited. Usually it is done only once a year, in April or May, so that the sheep may have a cool summer and begin to grow a new crop. If the sheep are few, it is easier to use a hand shears. Where there are many sheep the machine clippers are used and are run by hand or other power. Notice the machine in the picture (Fig. 192). It shears close and saves wool.

IV. Shearing the sheep.

The whole wool coat of the sheep is called the fleece. On the large sheep ranches of the West, each fleece is tied up into a bundle, and these bundles are packed in sacks holding 400 pounds and shipped to the wool-purchasing centers, where buyers examine the wool and buy in large quantities.

Some wools are better than others. The camel

furnishes a very soft fiber. The Angora goat of Asia Minor provides mohair. This fiber really resembles silk. Do you know where Asia Minor is on your map?

V. Varying characteristics of wool.

From Peru and Chile we get the alpaca and llama wools. The very best wool is the merino, which is very fine. Mrs. Edwards had two pairs of lovely merino stockings given to her for baby Dorothy. This was before they cost so much.

FIG. 192. — Shearing sheep by machine process.

The wool from the various sheep farms differs on account of differences in the soil, climate, and breed of sheep. For this reason, wool produced in the south of England was short and fine, while in the cold north it was coarser and stronger. The English and Australian wools are of several qualities. The long wools come from Lincoln and Leicestershire and the shorter ones

from Suffolk and Shropshire. The wools from Saxony and Silesia are very fine. Can you find these places on the map? Before the war the long, coarse wools were used for carpets and for knitting. Now all grades are used for clothing, blankets, uniforms, etc. The short wools, about 3 to 4 inches in length, are used for clothing. Some wool fibers grow to be 10 inches in length and are called combing wools. These are used for materials which are loosely woven, as homespuns, serges, etc. Barbara was glad to know about the wool used in serge.

Wool fibers vary in length. This variation is called the staple. Do you know the length of a cotton or a linen fiber? Wool fibers average 7 or 8 inches. Are they as long as cotton? The wool fibers vary, according to kind, in fineness, strength, luster, softness, and elasticity. Do you know what these terms mean? The tiny serrations can be seen with the naked eye. They are very important, for it is this characteristic which makes wool felt, and when the tiny serrations interlock it is possible to make fine broadcloths of lovely texture, and other fine wool materials. Do you think we wish the serrations to interlock in washing wool garments? How can this be prevented?

Miss Ashley had some raw wool which she had brought from the farm. It was washed in lukewarm water, as it was very dirty. It then appeared soft, fine, and lustrous. The girls also dyed some. The center of the wool fiber is rather porous and takes up the dye readily.

Suggestions for Review

1. Examine a wool fiber under the microscope.
2. Try to find out from the Department of Commerce, Washington, D. C., the statistics of the wool supply in the United States.
3. Tell how to launder a wool sweater or other wool garment. Do this at home and bring to school.

Lesson 47

More Hints About Buying Clothing

Some of the mothers asked Miss Ashley to talk specifically about buying shoes, underwear, and outer clothing, and to give them some hints also about children's garments. Miss Ashley arranged a program in which five of the ninth-grade girls took part. Would you like to know what they told the mothers about these subjects?

Miss Ashley told the girls that conservation of fabrics does not mean going without garments or materials which one can afford, but, as she suggested in the last lesson, it means care and wise choice, remodeling, and renovating.

I. What does conservation of clothing mean?

At the Mothers' Day, Dorothy Vincent told first what the girls had learned about selecting shoes. She told the mothers that leather is scarce because so much of it has been used for army and navy needs as well as for uniforms. Cloth tops and canvas shoes help in conservation and are cheaper than leather (Fig. 193).

1. Wise selection of footwear.

(a) Kind of leather.

Choose good leather, plain kid or lightweight calf. Low shoes, pumps, and oxfords save leather if your ankles do not need the support.

Patent leather is not economical because it is uncomfortable in warm weather, is liable to crack, and is of uncertain wearing quality. Shoe trees lengthen the life of shoes, as does frequent cleansing with good oil or polish.

Choose a standard sytle and color and see that the shoes are carefully fitted. They should be long enough to stand in. Before buying stand in both to determine this. Low-heeled shoes well fitted are the most comfortable. Many girls have fallen arches and are ill because their feet have not been properly clad. If you are not feeling well and your feet hurt, have them examined by a doctor. The Chinese women used to bind their feet for beauty. Some girls do this now.

(*b*) **Style.**

FIG. 193. — Choose shoes which will wear well and be comfortable. Which of these will be more comfortable?

The people who are able to do much work and render genuine service are those who can walk comfortably and support their own weight. Shoes should fit the instep and heel snugly and be straight on the inside line, with plenty of room for toes, a heel broad enough to support the body, and soles thick enough to walk on. Thick soles prevent dampness from reaching the foot. Keep the feet dry and doctors' bills will be saved. Miss Ashley had already told the mothers her opinion about rubbers and how they save shoe leather.

Hosiery is important, too, for health — light-weight cotton in summer, and heavier cotton in winter for most climates. Silk hosiery is not appropriate for schoolgirls, except for parties or special occasions. It does not wear as well as cotton and is inappropriate for many occasions. If you wish to be comfortably and sensibly dressed at school, choose white, black, or tan cotton stockings, to go with your shoes.

2. Selection of hosiery.

Miss Ashley showed the girls how to put new feet in stockings. They also used the McCall pattern ("B. B.") and recut old stockings for other members of the family. Miss Ashley showed the girls also how to place a row of machine stitching about six inches down from the top of new stockings. This prevents long rips or tears.

(a) Remaking hosiery.

Margaret Langley repeated what the class had learned about selecting corsets and underwear. Miss Ashley told the girls that the first corset should be carefully fitted and that most girls if slight can wear corset waists to advantage or no corset at all. One should learn to stand in such a way that one does not need corsets, since the muscles are developed to support the body. If worn, a corset should not press or make marks on the body. It should furnish a support to the back and the pressure should be upwards on the abdomen as a support. It should permit of perfect circulation. Side elastics which pull

3. Margaret Langley tells about selecting corsets and underwear.

(a) Corsets.

down uncomfortably are not healthful. There should be freedom within the corset for deep breathing, and it should not be tight at the waist. It is not fashionable now to have a Marie Antoinette waistline of hourglass shape, but rather a Venus de Milo waist (see Fig. 194). Do you know the difference? Margaret had some lantern slides to show the mothers which dem-

FIG. 194. — Corsets affect health. What kind do you wear?

onstrated the cramped position of the body organs when corsets are tight, and how good health is not possible when one cannot breathe deeply.

Choose corsets of material which can be washed and boiled. This will be conservation, for you will be able to wear the corset longer and thus save materials and labor in manufacture. With care the life of a corset can be doubled. A soiled corset is not

hygienic. Always hang it at night where it will air well, and wash it occasionally with warm water and pure soap and a stiff brush. Soak it for several hours and then boil. Dry in the sunshine. Keep corsets mended so that they will not destroy the outside clothing. Patch and rebind when necessary.

(*b*) **Underwear.**

Wise selection of underwear is important because of its relation to health (Fig. 195). Babies and old people of course feel the heat and cold more than others, and they need wool or part wool in winter when it is possible to get it. Of course underwear should be adapted to the climate and conditions under which one lives. Ill health is sometimes caused by weight of clothing and because the skin is not ventilated by certain fabrics used for underwear. Underwear next to the skin should be coarse in mesh to give plenty of air space and should be easily cleansed. The Sunnyside girls had learned about the hygienic properties of materials and so understood this. They knew that the human body produces enough heat each day to raise 40 pints of water from the freezing to the boiling point, and more when one exercises. To be in health the

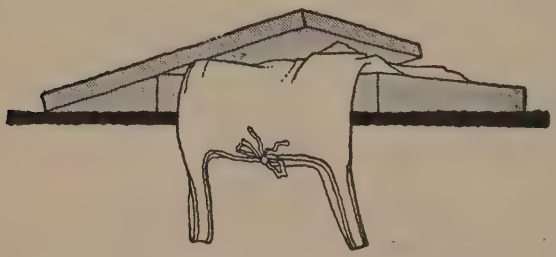

FIG. 195. — Underwear, too, should be chosen wisely.

body must keep an even temperature of 98° F., and some heat must be eliminated or given off.

The body loses three pints of water in 24 hours through evaporation. Clothing which prevents elimination of heat or which absorbs and holds so much of the body moisture that a moist, uncomfortable garment is next to the body is not healthful. Garment material which gives off the moisture slowly is more healthful than material which dries very quickly and in drying reduces the body heat too rapidly. The cooling effect of linen or cotton drying rapidly is an example. Linen gives off moisture more readily than cotton or wool, but cannot now be easily obtained. Wool, if one exercises freely, holds the moisture and often causes oppression. Open mesh cotton material is perhaps the most satisfactory for the majority of people.

Heat is carried from the body by certain materials. Wool and flax both conduct heat, but wool more slowly. Air in the meshes is a good non-conductor of heat, and so loosely woven garments are warmer; porous wool, cotton, or linen seem warmer than those closely woven.

Margaret said Miss Ashley had told them that the principal argument for using wool is that evaporation is slow and so the body temperature is not reduced too quickly. In addition, wool as a fiber is not a good conductor of heat.

Conditions of health, age, climate, and occupation

should guide one in choosing. Union suits, because they provide an even layer of covering, are considered by many people to be more hygienic than shirts and drawers, which cause a double layer at the abdomen. Miss Ashley said one must experiment until one discovered which was the most satisfactory kind of underwear.

There are many simple knitted garments of wool, cotton, or wool and cotton. Silk and wool are perhaps the most desirable, but few can afford them; wool is now scarce and silk high in price. Most people must wear cotton. Buy the garment a size larger than needed. This is economical, for the garment is not stretched and pulled as easily on the body and if it is bought for young people there is a chance "to grow into it." Select garments which are simply trimmed. Watch for tiny holes when they appear in knitted garments and mend as soon as possible.

After Margaret finished her talk the mothers had a social hour and discussed freely the points which had been mentioned. Margaret had arranged with Miss Ashley's help an exhibit of good, sensible styles of footwear and underwear for growing girls.

Suggestions for Review

1. When you buy a pair of shoes, what do you think about in relation to use and durability in selecting them?

2. How much do you pay for stockings? How many pairs a year do you need if well cared for? Explain your devices for caring for your stockings.

3. What kind of corset or corset waists do you wear? What should one be careful about in selecting this garment?

4. What kind of undergarment do you wear next to your body? What points should one consider in the selection of such garments?

Lesson 48

MAKING THE MIDDY BLOUSE AND RED CROSS GARMENTS

The Sunnyside girls have decided to wear middy blouses and white skirts for graduation. Is not this a very sensible decision for girls of the elementary grades? Would you wish to make them also (Fig. 196)?

I. Materials suitable for the middy blouse.

The Sunnyside girls wished to use either galatea or Indian head for their middies and skirts. They were quite expert in the use of patterns and made few mistakes. They always placed the long line of single perforations indicating the length exactly on the warp threads of the cloth. Dorothy Vincent said that she could tell easily which pieces to place on a fold of goods so as to cut double. Can you? The patterns used by the girls were 34 and 38 bust measure, as some of the girls were

Fig. 196. — The Sunnyside girls have decided to wear middy blouses and white skirts for graduation.

quite large. Margaret Langley and several others needed size 36.

Miss Ashley pinned all the pieces of the pattern to the dress form to show the girls the relationship of each piece to the figure. You can do this and learn, before you begin to cut, which pieces are to be cut on a fold. Lay your patterns on the cloth carefully and pin ready for cutting. Learn to use the tracing wheel for tracing seams so that all will match in putting the middy together. Make this garment entirely by machine except the basting and gathering. Baste all hems and facings carefully before stitching. Poor stitching spoils the appearance of a garment, but neat, good stitching is a real trimming.

1. The pattern discussed.

This is how the girls made their middy blouses (Fig. 196) after they were cut. Can you follow these directions?

1. Baste, with the seams on the outside, the shoulders and underarm seams. Try on. If necessary in order to fit more smoothly across the chest, let the front drop; if extra fullness across the chest is desired, let out under the arms. The shoulder seams will be finished, but not the underarm ones. Mark with tracing or pencil the new seam for underarm if you must change it.

2. Making the middy.

Make a flat felled seam at the shoulder, $\frac{1}{2}$ inch wide finished. All of you have learned how.

2. The sleeves, which are in one piece, are put in next, before they or the underarms are seamed.

Match the notches, gather the sleeves if there is any fullness at the armhole, and baste in the sleeves so that the seam is on the right side. Make flat fells, basting the turn which falls over the sleeves so that it will lie very flat.

3. Baste seams of sleeve and underarm all in one long seam on right side. Match at armhole. Make flat fell, turning the fell towards the front (see Fig. 187).

4. Hem the bottom of the middy with a 1 inch hem.

5. Finish the neck next. Prepare the collar with its facing according to the notches of the pattern and directions. Sew; turn to right side. If the collar is to be decorated with finishing braid, this decorating should be done before the collar and facing are sewed together. Attach collar to middy, right of center collar to right of the center back of middy. The seam will then fall on the inside towards the neck and will be concealed by the facing, which should be turned in and sewed over the seam. Patterns for middies vary, and other methods of attaching collar may be suggested. A loose ribbon or scarf of silk can be tied under the collar to form a sailor's knot.

6. Then finish the sleeve. The sleeve may be finished with a half-inch hem and rolled as many are worn, or a cuff can be attached which will be of the same width as the sleeve or just to fit the wrist. In the latter case, the fullness of the sleeve must be gathered to fit.

The Sunnyside girls had long sleeves in their middy blouses, as they were thought most appropriate for graduation. The cuff was made double. The two pieces cut the length and width desired were sewed together and turned. They were attached to the gathered sleeve with the seam on the under side of sleeve; the second thickness or facing was hemmed down and made a neat finish on the inside of the cuff where it was attached to the gathers.

Many of the girls worked eyelets in the fronts of their blouses and laced them. The eyelets were punched with a stiletto or sharp point and were like a buttonhole, except that they were perfectly round in shape.

II. The Red Cross garments made.

The girls spent one afternoon each week working on the Red Cross garments for refugee children. Those who had learned to make middy blouses specialized in relief work and in making the dresses for children. McCall patterns No. 90, No. 91, and No. 95 were used; and the girls said that they had no difficulty at all since learning to make bloomers, middy blouses, and other garments.

Suggestions for Review

1. Plan to make one of the Red Cross garments suggested, without help if possible.
2. Tell some friend how to place the pattern correctly in cutting out the middy.
3. Make a middy for sister or someone at home.

Lesson 49

THE STORY OF HOW WOOL IS MADE INTO CLOTH

One day Miss Ashley took the whole class to a woolen mill. Would you like to know what they saw?

The girls were all amazed when they saw that the great bales of wool were so dirty and oily looking. They realized that the wool sometimes travels a long distance before reaching the manufacturer. Perhaps the wool in your skirt came from Australia or England. When the wool is sheared it is full of burs, grease, and perspiration; this grease helps to keep the fiber soft until the manufacturer is ready to use it. He buys the wool by weight and pays for dirt and grease; sometimes only one third of it is wool, but he is glad to have this preserved by the grease. The first process which the Sunnysiders observed was sorting the wool. In one room men were engaged in opening the fleeces and separating the good grades of the fleece from the poor parts (Fig. 197). Some parts of this fleece or coat are better than others, especially the wool from the head and upper part of the back and sides. The fleece is often divided into seven different grades for different purposes.

I. Wool manufacture.

1. Arrival of wool at the mill.

2. Sorting of wool.

After grading the wool the manufacturer must wash it before it can be carded and prepared for spinning. The grease, or "yolk" as it is called, is removed by washing carefully in order not to break or

3. Wool washing and drying.

injure the fiber. Soft water at a low temperature (120° F.) and soft soap are most harmless. Why must the temperature be low? Try to wash some raw wool as Miss Ashley's class did.

FIG. 197. — Wool sorting.

The wool is washed in a series of tanks. The wet wool is swished back and forth by wooden forks which carry it forward and beat it out. Rollers pass the wool from one tank to another.

After washing, the wool is dried in a kind of wringing machine called a hydro-extractor.

Now the manufacturer must restore some oil to the wool, for this is necessary in order to keep it soft and elastic for spinning. Olive oil is used. What a strange thing after having washed out all the oil!

4. Wool oiling and blending.

If the wool has any dirt or burs still left in it, it is passed through a machine called a bur picker which beats out the dirt.

Very few garments are made of entirely new wool. Wool can be used over and over again. Much wool was lost because uniforms were destroyed during the war. Old wool rags are pulled apart and mixed with new wool. If this did not happen, the manufacturer would have to charge much more for materials than most of us usually pay. If only new wool were used, the world could not be clothed. Serge made of all new wool might cost from $4 a yard up — the Sunnysiders paid $1.75 a yard for the serge for the bloomers.

The manufacturer blends or mixes the wool before it is sent to the carding machines. He knows how to blend so as to get just the right color, style, and grade of material which he wishes to produce. Sometimes jute or cotton are mixed in if the manufacturer wishes to produce a very cheap material which is not all wool. Would you like to know the names of some of the all-wool substitutes used in reducing the cost of all-wool materials? Mrs. Edwards told the girls one day about it. She said that old rags of flannels, soft underwear, or wool stockings, in which the wool has not been felted,

when pulled apart are called shoddy. Do you know what felted means? These all-wool rags are ground up, washed, and prepared for mixture with the new wool. Mungo is another queer name given to old woolen rags prepared for mixing. This substitute is made from old materials which have been felted, such as broadcloth or men's suitings. Flocks is another substitute, and is nothing but wool waste from the clipping machines when the cloth is sheared or clipped in finishing. This is used to fill in — so nothing is wasted.

The girls then visited the carding room (Fig. 198). They saw the blended wool put in at one end of the machine and a fine, gauzy web come out at the other end. This machine or carder cleans the dirt from the wool and prepares it into a rope just as the cotton carding machine you learned about prepared the rope of cotton, or sliver as it is called. Look on page 186; you will see how wool was carded by hand in the olden days before modern machinery was invented. Grandmother Edwards said she had carded many rolls or slivers by hand and prepared them for the spinning wheel. So the manufacturer to-day prepares the rolls or slivers from the carding machines for the spinning frames or machines. Notice in the picture how the wool carding machine differs from the cotton one. It has a center cylinder, and around it revolve small cylinders. All the cylinders are covered with wire teeth which help to cleanse the

5. Wool carding cleans and prepares for spinning.

wool and pull it apart. The girls enjoyed watching the gauzy, filmy sheet of wool, the width of the long rollers, leave the machine as a fine web. The gauzy mass was drawn together through a hole at the front

Fig. 198. — A wool carding room.

of the carding machine, and this sliver or rope wound up in cans just as the cotton was delivered from the carder. The girls then saw these wool rovings wound on to spools ready to be placed in the spinning frames.

Miss Ashley had the girls recall how cotton is spun. It is drawn out, twisted, and wound on spools (Fig. 199). Wool also must be spun and made into yarns

before yarn can be woven into cloth. The manufacturer told Miss Ashley and the girls that he made two kinds of yarn, woolen and worsted. Do you know

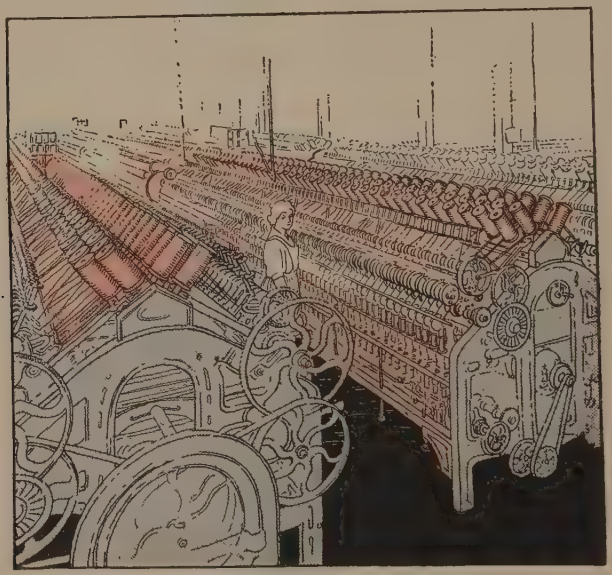

Fig. 199. — The spinning of wool into yarn.

the difference? Miss Ashley said that the class would have to call again to hear the rest of the story.

Suggestions for Review

1. Why must wool be carded? Describe how this is done.
2. What is meant by wool blending?
3. How are shoddy and mungo secured?
4. Tell how wool is washed.

Lesson 50

MAKING A PIECE OF UNDERWEAR

The girls had their choice, some made one-piece slips and others night-dresses according to their needs.

The ninth-grade girls decided to use cambric for their slips (Fig. 200). The pattern chosen was a very simple one which buttoned on the shoulders. You will see in the design that very little trimming was necessary. The girls decided to make the slips as simple and durable as possible. They might have put some simple hand scalloping or hand embroidery around the neck, armholes, and bottom. Instead they finished all edges with Hamburg edging. The slips were made from a simple pattern like the one shown in the picture, and were cut long enough to allow for a three-inch hem at the bottom.

1. Making the undergarment.

1. Choosing design and material.

Fig. 200. — The pattern chosen for the under-slip.

This is how they were made:

1. Underarm seams finished with French seam.

2. Making the underslip.

2. Three-inch hem made at bottom of slip. This was slit open at edge after finished, and the edges turned in $\frac{1}{4}$ inch. The narrow Hamburg edging was then basted between slit edges of hem and stitched.

3. The shoulder straps were stayed with double thickness of material. Material was cut same as outline of straps and one edge turned in and stitched across strap.

4. The edging for neck and armholes was put on in the following manner. Turn raw edge of bottom of Hamburg after it has been cut desired width of about 1 or $1\frac{1}{4}$ inches. This turning may be from $\frac{1}{8}$ to $\frac{1}{4}$ of an inch, to the right side of edging. Turn all garment edges at neck and armholes $\frac{1}{8}$ of an inch to wrong side. Overlap edges of garment on turned edge of Hamburg about $\frac{1}{4}$ of an inch. Pin, allowing for fullness, and baste the edge of the garment after the inside edge has been basted, to allow for the extra fullness at edge.

5. Finish with buttons and buttonholes made through the two thicknesses.

3. Making the nightdress.

The nightdresses were cut according to kimono pattern chosen. The French seams were used and a three-inch hem placed at the bottom. The edges of sleeves and neck were finished in the same way as the slip.

Suggestions for Review

1. Name some other materials of which undergarments can be made.
2. Tell of other methods of finishing neck and sleeves of underslip or nightdress.
3. Read about the knit goods underwear. Do you know how it is made?
4. What proportion of our clothing is made of knit material?

Lesson 51

Miss Ashley Helps the Sunnysiders to Think About the Selection of Outer Garments

Do you know that in these days of economy one must plan one's wardrobe very carefully and select most wisely? The girls discussed wise choice of outer garments. Would you also like to know how to choose wisely?

Edith told Miss Ashley that her mother was going to take her down town on Saturday to purchase a new coat and school dress. Both of these were much needed, as there was nothing at home which could be utilized. Miss Ashley discussed this subject, and Edith kept these points in mind and repeated them to her mother (Fig. 201).

I. How to select outer garments.

Fig. 201. — Which coat do you think Edith selected? Why?

1. Study yourself. You know what you need. Do not be influenced by the saleswoman to take a dress or a coat which is not adapted to your purpose. This is not economical. When things are not utilized, it is extravagance.

1. Select that which meets one's needs.

2. Choose one which is simple and pleasing in design and line construction, with good spacing. The girls had studied about this and had drawn designs of garments with pockets well placed, and trimming arranged with good spacing. The design of the garment is very important; do not buy it if it is not good, for one soon tires of it, and it goes out of style. The Sunnyside girls had studied in their design class about the fundamental principles of design and knew that the simple things are usually the most beautiful, and that a garment, if correctly designed, can be made a true work of art. They had an appreciation for the beautiful in line and color and with Miss Ashley had studied in their fashion books some of the good designs. Pinned on the bulletin board she had several designs, both good and poor. One day the girls went down town with Miss Ashley when Smith & Jones' department store had a fashion exhibit. They criticized the garments exhibited. Some were not at all beautiful and showed a needless use of material and of trimmings.

2. Design is important.

3. Color is also important, Miss Ashley said. Do you know the colors which are most becoming to you? When thrift is necessary choose colors which will be

most serviceable. Adopt a color; when buying new things, buy those which go with what you already have. Browns, tans, greens, and navy blue are good fundamental colors for winter school dresses or for outside garments, coats, etc. Sometimes a heavy coat may look well with a serge dress if of a harmonious color.

3. Color must also be considered.

Plain rather than figured goods is usually more becoming and serviceable. It can be remade to better advantage. The quality of the cloth is another important point for consideration. It should be suited to your needs and purposes. Some materials, such as serges and homespuns, are adapted to school purposes, while broadcloth is not. The material should be substantial in texture. Plaids are suitable for school girls and in good taste. In remaking they can be combined with plain material.

4. Kind of material should also be considered.

The Senior girls in high school made their winter school dresses. Several simple designs were chosen by Miss Ashley and the pictures pinned on the bulletin board. From these the girls chose the designs best adapted to their individualities and changed or adapted them to suit their styles. The materials chosen were also adapted to the design of the dress. Some styles are designed for wool materials, and others adapted to the thin ones.

Miss Ashley said that she thought the trimming of garments should be very simple. Many of the gar-

ments at Smith & Jones' department store were simply trimmed with bias bands, folds, or cords. If home-made, this is real conservation, for sometimes the folds or bands can be made of left-over materials. Even if new, they are a cheap trimming.

5. Trimming of garment should be simple.

Other garments were simply tailored, that is, the garments were designed so that the trimming was really neat stitching and the decoration good buttonholes and attractive buttons. Miss Ashley often wore tailored dresses. They were certainly trim in appearance.

The Senior girls last year decorated their gowns with wool or silk embroidery. Some of this was done with scraps of wool left-overs which Miss Ashley had saved. The designs had been worked out carefully in class and added an individual touch to the garments. Of course it was not necessary then to buy trimming. It depends, though, on design and workmanship whether this kind of trimming is pleasing. Sometimes simple embroidery stitches make effective trimming, as couching or chainstitches or even plain machine stitching.

6. Workmanship should be examined before selecting ready-made garments.

Workmanship should always be noticed. Cheap garments are usually put together hastily and as a rule will furnish very little service. Stitching if loose will ravel, and the garment soon fall to pieces. Careless facing, binding, and hemming are not satisfactory.

Suggestions for Review

1. Select from a fashion magazine a design which you think would be suitable for your next school dress.
2. What is meant by simplicity of line in construction of dresses or coats?
3. What trimmings do you consider most appropriate for a school dress?

Lesson 52

PURCHASING WOOL CLOTHING

One should understand the difference between woolen and worsted yarns, which are used for making wool materials, if one would know how to purchase wool materials intelligently. The manufacturer at the mill explained this also to the Sunnysiders.

The manufacturer took the girls to a large room containing many wool combing machines such as you will see in the picture (Fig. 202). He told the girls that worsted yarn is prepared from the long wools. It is put through a process called combing which removes any short fibers and prepares the long fibers for spinning by combing them until they lie parallel. This makes an expensive yarn because so much is combed away. This combed worsted yarn is used for the best worsted materials, such as some cheviots or fine tweeds, or for fine wool underwear.

I. The difference between woolen and worsted yarns.

1. Worsted yarn.

Woolen yarn is prepared by a different process. It is not combed to remove the short fibers, but instead is carded a great deal so that the wool fibers are well mixed and the serrations covering the

2. How woolen yarn is prepared.

surface of each tiny fiber so arranged that they will interlock when placed in water of high temperature. The fiber is of a gelatinous nature and the warm water opens up the little scales. Woolen yarn, after carding

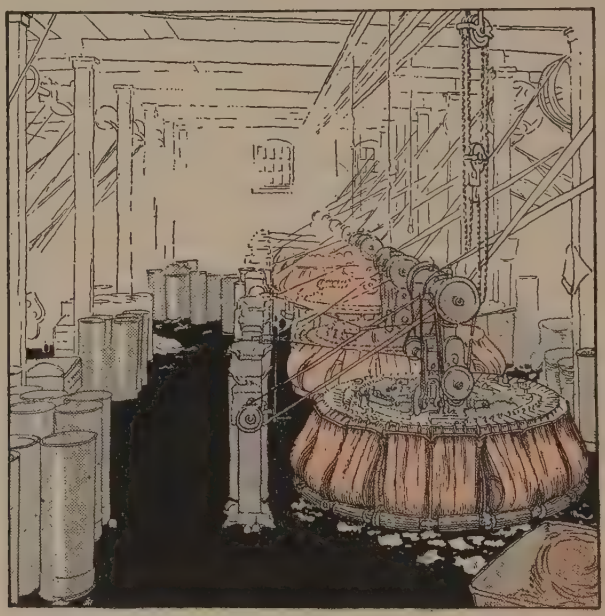

Fig. 202. — Worsted yarn is combed a great deal.

and spinning, is woven into broadcloths and meltons. When it is woven, the cloth is put into large vats of hot water where the temperature opens up the serrations, and the scales in interlocking make a close, smooth piece of cloth. This is called fulling. How interesting to know why the manufacturer used worsted yarn instead of woolen for underwear ! If worsted yarn were used

for broadcloth it would not have as close a finish. Can you tell why? The worsted yarn is combed in such a way that the fibers cannot interlock as easily as in woolen yarn. Notice how the two yarns appear in the picture (Fig. 203). Miss Ashley asked the class if they could tell why worsted yarn is used sometimes and woolen yarn at others.

3. Worsted yarn is combed a great deal.

A *B*

FIG. 203. — This shows the difference in the slivers of wool and worsted yarn. *A* is the woolen yarn, well mixed; *B* is the worsted yarn, well combed.

After woolen yarn has been spun it is woven into cloth. Woolen yarn is quite fuzzy. The cloth is woven rather loosely, as it is put into the vats and shrunken or fulled until the cloth is compact. Broadcloth is a good example.

4. Woolen cloth woven loosely and fulled.

Worsted yarn when woven into cloth is woven more closely. It is shrunken very little or not at all, and we have from it the beautiful homespuns and worsted suitings.

Wool fabrics are woven in many patterns besides the plain weaving of homespuns. The yarns are arranged in the loom in very much the same way that cotton yarns were arranged for weaving. Many beautiful patterns were made before the war, such as complicated double

5. Patterns are possible in cloth made from wool.

weaves like steamer rug materials, different on each side. To-day more of the simple, plain materials are being manufactured.

Mr. Jameson, the manufacturer, told the class that he must determine whether he would use cotton or mungo, shoddy or flocks in reducing the cost of production of wool cloth. In war days much cotton was used, as wool was not easily obtained. Flocks is put in when the cloth is fulled in the vats. It is really dust or short ends which are drawn in as the serrations open and the cloth is shrunken.

6. During war times much cotton was used.

Miss Ashley said that one must know these points about manufacture if one would purchase intelligently. To-day most of us cannot afford to buy cloth made of all new wool, and very little of it is being made. We should learn how to tell whether cloth is made of cotton and wool mixed, although no shopkeeper should sell a cotton and wool material for all wool.

7. One must know about manufacture to purchase intelligently.

Woolen and worsted yarns are used also in the manufacture of carpets, rugs, hosiery, blankets, underwear, and also for knitting purposes. Many of these are often adulterated. The Sunnysiders thought that the wool which they were using was about half cotton. Do you know how to knit? The Sunnyside girls had a club and all had learned. Miss Ashley let them bring their knitting to school for help when they needed it.

8. Woolen and worsted yarn used for other purposes besides cloth.

Miss Ashley and the girls talked over their trip to the woolen mill, and these are the points which all felt should be kept in mind in purchasing materials made of wool.

1. It will pay to buy the best one can get or afford. It can be used over again and always looks well if steamed, presssed, or washed.

9. Suggestions for purchasing wool.

2. The weave of the cloth affects the wearing quality. A close twill weave like serge will wear better than a loose, open weave. Buy that which will wear, and save labor and time of making as well as cloth.

3. Garments made of cotton and wool do not keep their shape as well as wool garments.

4. Wool burns slowly, chars, and gives off an odor of burned feathers. Cotton burns quickly with a flame. Burn a sample of cloth and learn its composition if buying new material (Fig. 204).

FIG. 204. — Wool burns slowly. This is a good way to test wool.

5. Wool and cotton are used together now for clothing materials. The mixed goods should not be sold for all wool. It wears fairly well but is not so warm. If you untwist some of the yarn you can see whether cotton is present.

6. Underwear of cotton and wool is not liable to

shrink as much as that of all wool. Wash in water of a low temperature. Hot water shrinks it (Fig. 205).

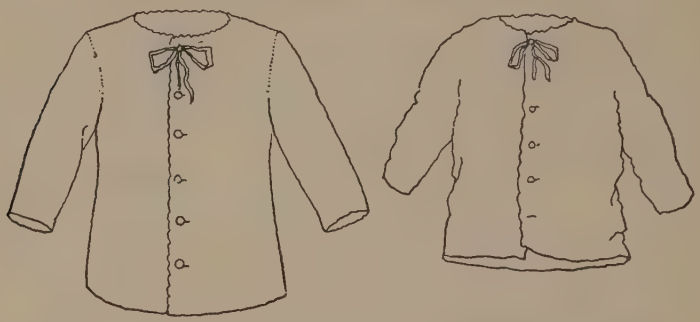

Fig. 205. — All wool underwear must be washed with care. Why?

Suggestions for Review

1. Notice the dresses of your school friends. Decide whether the material was made from worsted or woolen yarn.
2. Bring to school two articles made from woolen yarn; two from worsted.
3. Tell how the broadcloth in mother's suit or teacher's coat was made.
4. Describe how tweeds or homespuns are woven and finished.
5. Give five suggestions to be kept in mind when buying materials of wool or wool garments ready-made.

Lesson 53

Some other suggestions for the care of materials

The Sunnysiders are learning to use every scrap of material, for Miss Ashley says that not a thing must be wasted. Try to be thrifty by following their good example.

Miss Ashley decided to have an exhibit showing the care of textiles and other materials and asked all to help, both the elementary and the high school girls and boys. Some of the older girls had some interesting things to show. They were arranged very attractively, and for several days the exhibit was open to the people of Commonwealth City. Here are some of the things shown (Fig. 206).

I. A Thrift exhibit.

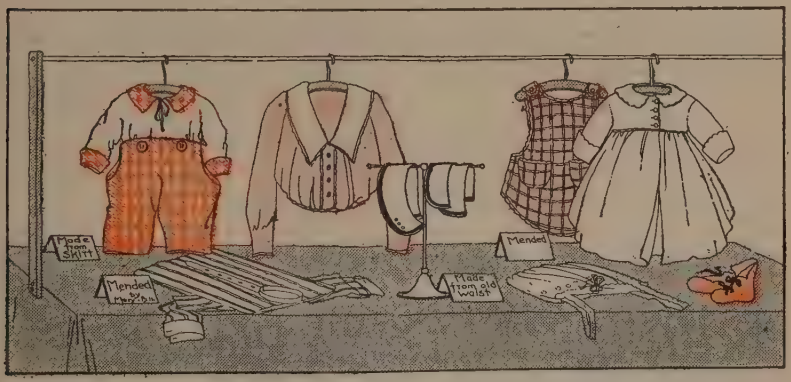

FIG. 206. — Have you had an exhibit of renovated and made over garments at your school?

1. *Renovated garments.* Some of those which had been brought in or collected in the neighborhood had been washed and pressed, darned, or patched if necessary, and all spots removed. One mother exclaimed, "Why, if I had known how to do this renovating I need not have given away little Mary's coat! It was so spotted that I thought I would have to send it to a cleaner's. That

1. Renovated garments.

would have been expensive, and now it looks like new."

Steaming, washing, pressing, cleaning, and brushing had made many of the old garments look like new. A few rugs had also been washed and some wool shawls and sweaters.

A number of children's garments were shown which had been let down, faced, and made ready to wear.

Men's shirts were also exhibited with double thicknesses of cloth stitched near the collar bands on the inside to prevent wearing out and to lengthen the life of the garment.

There were also several dresses which were worn or discolored about the neck or cuffs. They were now quite smart in appearance with fresh collars and cuffs of white or contrasting color.

2. *Articles made from old materials.* In this section the visitors were much interested in the stockings and undershirts recut from old stockings and underwear. The McCall "AA" and "BB" patterns were shown, and instructions given by the schoolgirls for recutting these materials. The old stockings and underwear had been collected by the school children and the recut garments were sent abroad.

2. Articles made from old materials.

a. **Stockings and underwear.**

There were also some lovely little cotton dresses and rompers for children made from men's negligée shirts. The lower part of the front lap of the shirt with buttons and buttonholes was used

b. **Dresses and rompers for children.**

as the placket opening at back of the child's dress. The pattern was shown placed so that all the worn parts of the shirt were cut away.

There were coats for children and trousers for boys made from some old woolen dress skirts and men's trousers which had been cleansed and recut. Of course all buttons, snaps, and hooks and eyes were ripped off, sorted, and used again.

c. Coats and trousers.

Old kid gloves had been made into bootees for children, and many old gloves had been collected to be made into warm jackets. The pieces of kid were overlapped on the jacket pattern of cloth and stitched flat. They make good protection.

d. Use of old kid gloves.

Then there were many knitted articles: bonnets, bootees, and hospital blankets. These had been made from old knitted articles which had been washed, raveled, and reknitted.

e. Knitted articles.

The girls also had a pile of old scraps of wool, linen, and cotton bits of cloth. The pile was labeled, "Save for the salvage department of the Red Cross. Cotton rags can be used for paper, wool can be remanufactured into cloth, and linen used in many ways for the sick. Save all the scraps you can."

f. Scraps were used too.

There were two very good-looking braided rugs made from worn-out parts of wool underwear and stockings. Some cotton rags were also used.

There was also a hat exhibit. The people of Commonwealth City were very much amused to see their

old hats perched up on stands looking like new. They had been cleaned, brushed, and painted or dyed.

g. **The hat exhibit.** Old trimmings had been refreshened, velvets steamed, flowers repainted, and odds and ends of silk and georgette crêpe used for ruchings and facings, covering for worn crowns, and bands of hats which were well worn. Some flowers had been freshened by dipping in gasoline and dye. One girl at the exhibit was steaming a velvet hat over the teakettle (Fig. 207). There were several very pretty silk hats and turbans made from the good portions of old silk petticoats and odds and ends of fur.

FIG. 207. — One girl was steaming a velvet hat.

h. **Redyed articles.** Another section of the exhibit showed articles which had been redyed. White silk waists and old cotton blouses had been dyed with quick soap dyes, and these attractive garments were then pressed and stuffed with tissue paper for the exhibit. Faded cotton garments of gingham and linen had been redyed with commercial colorings.

Lace collars and bits of reclaimed lace which had been cleansed, pinned down, and pressed were also shown.

3. *Articles mended.* To most parents this was a very interesting part of the exhibit. Stockings were shown

3. Mended articles. which had been darned, underwear and table linen which had been patched, and tears which

had been mended carefully. The mending basket was exhibited with its full equipment and tools for any emergency. The machines were also placed to show how darning and patching can be done on the sewing machine.

4. *Care of clothing.* One girl was busy pressing. She had all the equipment ready to exhibit: cloths, irons, pads, and press boards made by the boys. She showed how pressing prolongs the life of clothing.

4. Care of clothing.
a. Pressing.

Two of the boys had the shoe exhibit. One was cleaning, oiling, and polishing shoes, and showed how old ones can be made to look almost like new. Another boy was cobbling and mending shoes. Shoe trees made of rattan were shown, and other simple devices for keeping shoes on trees and thus increasing their length of life.

b. Care of shoes.

Proper methods of hanging, protecting, and storing clothing were exhibited and some packages carefully sealed to show how to keep moths away.

c. Hanging clothes properly.

There was also a small apron exhibit labeled, "Wear an apron while at work. It saves your clothes."

5. *Household hints.* There was also a table labeled "Household Hints." Here were shown dusters, holders, floor mops, dish mops, wash cloths, doilies, and towels, all made from old materials. Old black stockings which could not be mended or recut were made up into useful floor mops by cut-

5. Household hints.

ting them in strips and fastening them in the mop handle.

The graduation class showed how they expected to conserve. Instead of expensive graduation dresses they were to wear their middy blouses and skirts just completed in class. These were shown, and all appreciated how sensible they were and for how many purposes they might be used.

6. The exhibit of the graduation class.

Suggestions for Review

1. Do you think you can plan for a thrift exhibit at your school? Appoint committees for collecting garments and for other purposes. Ask your teacher to plan so that the work can be done for school credit.

2. Try to discover uses for worn clothing besides those mentioned and some new ways of saving through care of clothing.

3. Send a questionnaire to the homes of all the children in your school. These questions might be asked:

(1) What are you doing with outgrown and old clothing?

(2) How are you utilizing scraps of materials?

(3) Do you recut or remake any articles of clothing? How?

Lesson 54

The clothing budget

Do you know how much is spent for your clothing each year?

The girls of the Ellen H. Richards School compared the cost of ready-made and homemade garments and realized that very often it pays to make things at

home if one can give the time. There is greater satisfaction as a rule, the garments wear longer, and the materials are apt to be better.

Margaret Langley had very good plans for buying her clothing each year. Do you understand what is meant by a plan or budget? Mrs. Edwards had a plan for her household expenses; and after she had decided what percentage of the family income might be spent for clothing, she had wise plans for spending the money to advantage. If one is to get the greatest satisfaction, one must plan with intelligence in spending money for textile materials.

Margaret Langley had a cousin who was a stenographer. She had been obliged to leave high school after she had been there only two years. Fortunately she had taken the commercial course, so she started with some knowledge of business. Catherine earned $12 per week and lived at home. She paid for her room and board as her share of the family expenses. This was $7 per week, so she had $5 for other expenses. Catherine carried her lunch down town with her each day and usually bought a hot drink of cocoa or soup at the Y. W. C. A. cafeteria to go with it, so she spent about $1 per week for carfare and a hot drink.

The five dollars she divided very systematically. She put aside $1.75 each week for clothing and so spent $90 per year for wearing apparel. Each week she tried to save 75 cents, or $3 per month. She had bought a $50 Liberty bond and was buying War

Savings Stamps very systematically. The remainder of her money was spent for church and club expenses, for gifts, magazines, etc. Occasionally she bought a new ribbon or waist, but she thought that the $90 per year supplied about all her clothing needs. Margaret had told her about all the conservation ideas learned at school, and Catherine thought that next year she might be able to save some of the $90.

Both Margaret and Catherine planned very carefully and always remembered that one should really plan a clothing budget for three years, because the life of most garments is more than a year. When the girls started to keep their expense books and clothing accounts they listed all their wearable garments and so bought only the things needed for the first year. The budget of each person will of course be different; but if you are wise you will begin to plan for each year's garments, and will list the necessary articles to be bought. Then in shopping you will recall all the good suggestions Miss Ashley gave the Sunnyside girls. If you do, you will have good-looking clothing and be very sensibly dressed. Work out your budget. Do you know how much mother spends for your clothing each year? Look on page 122, where Mrs. Edwards tells how much is spent for each member of her family. Make a list of all the necessary articles which you will need this year and try to learn the prices. They have all increased in price.

Suggestions for Review

1. What percentage of your family income does mother have to spend for clothing for the whole family?

2. Make a list of all the clothing which you have.

3. Make a list of all the articles which you think you need for the next year. After making the list try to see how many you can do without and still be comfortably and suitably dressed.

4. Ask mother to let you go shopping with her and help plan your own wardrobe.

Baby is a very Important Member of the Family

CHAPTER VI

CLOTHING THE BABY AND CARING FOR HIM

What do you suppose the girls of the Ellen H. Richards School did one Christmas? They planned for three boxes of gifts to be sent away. Two of them contained clothing for babies in the war countries. These they had collected from Mrs. Edwards, Mrs. Vincent, and other mothers of Commonwealth City, and under the direction of Miss Ashley had patched and darned them so that all were in good condition. They packed them with care and put in toys and other gifts which some of the teachers brought as their share. They also made some new clothing for a poor little baby whose mother, Mrs. Townsley, was ill, and they carried this box to her home on Christmas Eve. Mrs. Townsley helped Miss Ashley at the school apartment when it was necessary to have extra help, and all the girls loved her baby Ethel.

Did you ever learn about caring for babies at your school? Miss Ashley had a large doll which looked ex-

actly like a baby, and all the girls learned how to dress it and to care for it. They learned also what is the best kind of food for baby. It isn't quite the same as having a real baby at school. Sometimes Miss Ashley asked Mrs. Edwards to bring baby Dorothy to school. One day she showed the girls how to bathe the baby. All the girls were very glad to learn, for many of them helped their mothers to care for their little baby sisters or brothers. We are going to study, too, the many things which they learned about clothing the baby properly, the best kind of food, and how to keep baby happy and comfortable. The girls of the Ellen H. Richards School all enjoyed the lessons about the baby, especially when little Dorothy was brought in.

Lesson 55

BATHING THE BABY

One must be clean if one is to keep well. Baby is cross unless made comfortable by a daily bath.

Have you a baby at your house? Have you ever noticed how mother or nurse bathes him and cares for him every day so very patiently? There are so many things to think about. Mrs. Edwards showed the girls how to bathe the baby carefully. This is what she did.

I. The bath is very important if baby is to be kept well.

Miss Ashley had a tin tub which was oval in shape and painted white. This she rested on two blocks of wood so that Mrs. Edwards did not have to stoop

over. The tub was placed with a chair near the radiator, for baby must be bathed in a warm place. It was towards springtime, too, and the air outdoors was not very cold, but there was danger of baby becoming chilled. On another chair near the tub she placed all

FIG. 208. — The bath is very important if baby is to be kept well.

the necessary things for Mrs. Edwards' use while bathing baby Dorothy (Fig. 208):

1. List of necessary things for use in giving baby a bath.

Two washcloths.

Two soft towels.

A cake of pure castile soap. (Scented or strong soaps would injure baby's skin.)

A bottle containing boracic acid water for

washing baby's eyes. This is made by dissolving 1 teaspoonful of boracic acid in a glass of boiling water. Boracic acid is a white powder; it can be bought by the pound at the drug store and costs less than when bought in small quantities. The solution can be kept tightly corked in a clean bottle.

Absorbent cotton, for use in washing baby's eyes.

A bottle of vaseline.

A box of talcum powder. This costs less if bought by the pound.

Some pieces of absorbent cotton rolled into a point like a pencil for cleaning the nose and ears.

The tub was filled half full of warm water. On the floor near stood two pitchers, one containing hot and the other cold water, in case baby's bath had to be made warmer or cooled. Mrs. Edwards said that when Dorothy was very tiny, only a few weeks old, the temperature of the water was 99° F. or about blood heat; as baby grows older the temperature of the water can be lowered. 90° F. is warm enough when she is a year old. Mrs. Edwards had a bath thermometer which she used for testing the water. They cost about twenty cents, but one also learns to know the temperature by testing with the elbow, which is sensitive.

2. When to bathe the baby.

The best time to bathe baby is in the morning between two feedings, — Mrs. Edwards said that it should never be less than one hour after a feeding. When baby Dorothy was sick, the doctor told Mrs. Edwards not to bathe her in the tub,

but to wipe off her body with warm water every day. When baby is well and strong, she should have a bath every day after she is a week old. Babies often fret because their skin is not clean, and they need a bath to make them feel comfortable.

3. How to bathe baby.

The girls were all very much interested in the way Mrs. Edwards bathed the baby. They watched her carefully. First she removed some of baby's clothing, but not all, and washed her face and head. She used one of the soft washcloths which was for the face only, and then dried baby's face with the face towel. Next she washed out the ears and the nose very gently, using the tiny rolls of cotton. Mrs. Edwards then removed all the clothing and with the second washcloth, which was for the body, she rubbed soap all over the baby, and then very carefully placed her in the tub. What fun the girls had watching her splash! Mrs. Edwards washed the little body all over, while she held baby very carefully in order not to let her slip. Five minutes is long enough when baby is a year old, and less time, only two or three minutes, before that. Mrs. Edwards wore an apron of soft crash. After rinsing baby she lifted her on to her soft apron and dried her quickly. Next she used the talcum powder in all of the fat creases of neck and arms and legs, so there was no danger of uncomfortable chafing. Then she dressed baby very quickly, drawing the clothes over her feet instead of her head. Next lesson we shall study about the clothes.

Mrs. Edwards said that three things more were necessary before baby was ready for breakfast and her nap out of doors. The soft absorbent cotton was wet in boracic acid water, and each eye was washed with a fresh piece of cotton. This was then thrown away. The second attention was a little cool boiled water to drink. This was given from a spoon. It is not necessary to wash baby's mouth in any other way before she has teeth. Then Mrs. Edwards brushed Dorothy's hair with a very soft brush and placed a blanket about her. Think how very comfortable she felt, and ready for breakfast.

Some day you will be able to bathe your baby sister. Perhaps you can learn by trying to bathe the school doll. Mrs. Edwards said it was very easy to learn how, and that baby was less restless if one did some of the things before entirely undressing her, and then some after she was dressed, as is suggested in this lesson.

Suggestions for Review

1. Watch your mother or some mother you know bathe the baby. See whether she uses the same method Mrs. Edwards suggested.

2. What temperature would you make the bath for baby? Why?

3. Write a letter to someone you know and tell about your lesson in bathing baby.

Lesson 56

THE NECESSARY ARTICLES OF CLOTHING FOR BABY

Have you ever dressed a doll baby or a real one? Do you know the best kind of clothing to keep baby comfortable?

I. How much clothing shall baby wear?

Mrs. Edwards told the class that one must always remember that both babies and old people feel the cold or the heat much more than other people. In summer baby must be clothed lightly, especially at midday; but towards evening, or in early morning, when it is cool, outer garments should be put on. Clothing is worn to preserve an even body temperature. Sometimes in warm weather it is wise to remove all of baby's clothing and to give her a cool sponge bath. Do not put so many clothes on baby in warm weather that they will cause her to perspire.

1. Winter clothing.

In winter baby needs more clothing, especially on a cold day, and when he is outdoors an extra sweater or coat should be worn under the long coat (Fig. 209). Mittens

Fig. 209. — In winter baby needs more clothing, especially on a very cold day.

and a warm cap are necessary. It is wise to have the coat turn up like a bag, over the baby's toes, to make her warm and comfortable and to keep out the cold winds.

Mrs. Edwards said that baby's clothing should always be clean and baby dressed for comfort and not for show. The clothing if soiled should be removed at once in order that baby's sensitive skin may not be irritated. All the clothing should be light in weight and loose, so that freedom of chest and abdomen and limbs is possible. Only a few buttons should be used, as these sometimes make baby uncomfortable.

2. Baby's clothing should always be clean and loose.

This is what Mrs. Edwards put on baby Dorothy when she dressed her:

1. A band for the abdomen. Mrs. Edwards showed the girls how to make this. The strip of flannel was not hemmed but was cut 18 inches long with the warp and 7 inches wide with the filling threads. Mrs. Edwards fastened it with sewing stitches. The band supports the walls of the abdomen and is to protect the wee baby. It must not be too tight, for baby would vomit or his flesh be cut. When baby is about four months old this band can be replaced by a knitted one which can be bought ready-made. Knitted bands have straps over the shoulder and a tab in front at the bottom to pin to the diaper. This keeps the abdomen well protected. Knitted bands are worn until baby is two or three years of age or older (Fig. 210).

II. The necessary clothing to put on baby.

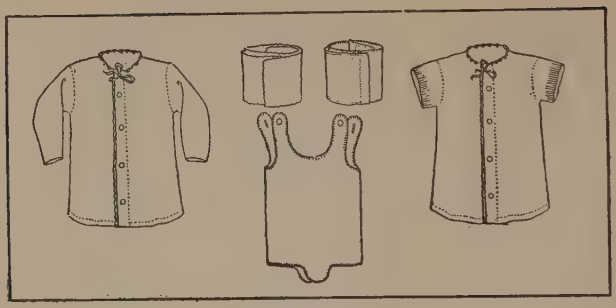

Fig. 210. — Baby's bands and shirts.

2. The shirt is important. Wee babies should wear long-sleeved shirts of cotton and wool, or silk and wool. Baby needs some wool when very young. This garment is bought ready-made and is worn over the band.

3. Diapers can be made of either linen or cotton bird's-eye. Linen is cold for wee babies, and cotton is softer and better. Eighteen inch squares are large enough for small babies. As baby grows, 22 inch bird's-eye is a better size. Cheesecloth is a very soft material and is often used for young babies. Diapers should never be used a second time before washing.

Mrs. Edwards showed the girls how to put on the band and the tiny shirt and to fold the square diapers in triangular shape. They were pinned carefully so that the tab of the band was held over baby's abdomen. Then Mrs. Edwards drew on baby's stockings, long ones made of cotton and wool which protected her little legs very well.

4. Mrs. Edwards showed the girls next how to slip the other garments over the feet, never over baby's

head. The petticoat was next. Mrs. Edwards said that she thought it more economical and just as good for baby when he is very young to have only one petticoat, a flannel one. The best length for baby is not more than 27 inches from shoulder to bottom. Cotton and wool flannel is better than all wool for this purpose, and does not shrink so easily (Fig. 211).

FIG. 211. — The petticoat and dress or slip.

5. Mrs. Edwards then held up one of baby Dorothy's slips or dresses. It was very plain and neat. Mrs. Edwards had made it. Next came a wrapper of flannel, opened down the front, for cool days or mornings. She also showed the girls some sacks of wool flannel, short ones bound with ribbon, which she thought they might wish to learn to make (Fig. 212).

Of course baby will need mittens, cap, coat, and sweater for outdoor wear, and long stockings. When baby begins to walk, shoes will be needed. They should

be chosen with broad toes and straight soles which fit the shape of the foot. Low shoes are pretty before baby walks, but the high laced ones are more comfortable when he begins to run about. Do not forget that baby's feet must be kept dry, or he is liable to be sick.

Fig. 212. — Baby Edwards' wrapper and sack.

III. Shall we make or buy baby's clothing?

Have you ever thought of all the necessary things baby needs in his wardrobe? Mrs. Edwards, you will remember, planned baby Dorothy's wardrobe as she planned her own. She said that sometimes it was necessary for her to buy the clothes ready-made. They do not always wash or wear so well, and cost a little more, but she has other duties to perform for her family. Some garments can be bought of good material, simple in style, and well made. Mrs. Vincent, too, thinks that it is foolish to make everything at home. She finds that every year the stores are producing better garments of better style. Mrs. Vincent said that the important thing was to learn how to select those of most durable materials. She thought it was possible to buy to advantage ready-made such things as boys' suits, waists, pajamas, and rompers; as these things take much time to make at home.

One can spend a great deal of money for clothing for baby, but the simple garments are the most attractive and are easier to keep clean.

Do you know how many things are necessary for a new baby and how much they cost? The two lists will show that there is a slight reduction in cost of materials if mother or sister makes some. The nightslips can be used at first for day dresses, and something saved in this way.

Ready-made		*Homemade*	
3 flannel bands	$ .96		$ .45
3 knitted bands with shoulder straps	.90		.90
12 diapers hemmed	2.35	Cotton diapering 18 inches wide, by piece 10 yards, hemmed at home will make 20	2.25
3 shirts, cotton and wool	1.50		1.50
2 flannel skirts	3.00		2.00
3 plain nightslips	3.00		1.50
1 dress	1.50		1.00
1 flannel or knitted sack	.90	Flannel sack	.60
2 flannelette wrappers	2.30		1.60
2 pair bootees	.75		.40
Total	$17.16	Total	$12.20

Suggestions for Review

1. Send for a catalogue of clothing for baby. Select what you would like to buy if you had $15 to spend.

2. Explain why it is necessary to think about adapting baby's clothing to the climate and weather.

3. Tell what clothing Mrs. Edwards put on baby Dorothy after her bath.

Lesson 57

SOME THINGS TO MAKE BABY GROW

Clothes must be chosen to keep baby comfortable and care must be taken of him so that he will grow. Had you thought that so many things were necessary?

Miss Ashley said that sleep was very necessary, especially for babies. In the first month of baby's life, he should sleep about twenty-two hours out of the twenty-four, and as many as sixteen hours a day even when he is as old as six months. The other hours are for feeding and bathing and being awake. If baby does not have enough sleep while he is growing, his nervous system will not develop normally, and he will be nervous, fretful, and restless (Fig. 213).

I. Sufficient sleep is necessary if baby is to be kept well.

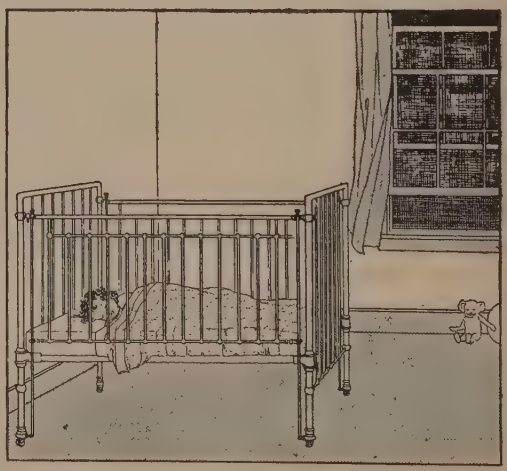

FIG. 213. — Sufficient sleep is necessary.

Baby should be undressed and made ready for bed by six o'clock during his first year. He should be trained to sleep from 6 P.M. to 6 or 7 A.M. during his

first three months, with only one feeding at 9 or 10 o'clock at night and another about midnight if he wakens. He should have a nap morning and afternoon during his first year and later on one nap every day. Do not rock baby to sleep, but place him in bed, alone in a quiet room. His room should be screened, if possible, or a netting placed over the bed. Flies and mosquitoes carry germs and disease to baby.

1. When should baby go to bed?

In order to grow strong baby needs plenty of fresh air while sleeping and plenty of sunshine. Even in cold weather, if well protected, baby can sleep outdoors. If he cannot sleep out all the time, keep him outdoors as much as possible. His room should be well ventilated in cold weather as well as in summer, and the window opened top and bottom while he is asleep, as shown in the picture.

2. Fresh air is necessary while sleeping.

Baby should sleep alone. Mrs. Edwards used a clothes basket at first for baby Dorothy and made it comfortable with pads and blankets. Later the bed which is shown in the picture was bought for Dorothy. Mrs. Edwards discovered that she rested better without a pillow, and that her back was kept straight and erect.

3. It is better for baby to sleep alone.

Day clothing should be hung up to air and a fresh band, shirt, and diapers put on. The nightdress should be warm in winter, but a lighter slip is better in summer. The winter

II. Clothing for night should be clean and fresh.

gown should be made of cashmere or flannel, or especially prepared outing flannel which has been treated with chemicals (see page 142). Otherwise outing flannel is dangerous for baby, as it takes fire very easily should baby be exposed.

The stockinet nightdresses which are knitted like stockings can be bought ready-made. They are warm and comfortable and can be drawn up at the feet.

The temperature of baby's body should be about 98.5° F. and body heat must be saved to make the organs of the body grow and operate properly. The body is a wonderful machine and needs fuel. It gives off energy and heat. Miss Ashley told the class that in grown people who are not sick one fourth of the heat which the body generates or makes is used by the body and three fourths is given off by the skin. In young children the power which controls giving off the body heat is not perfectly developed so their body temperature varies, and care must be taken that the body does not give off too much heat. The legs must be kept warm and the body heat preserved, as the blood is feeblest in the legs and the blood circulation not very good in the lower parts of the legs or the knee joints. That is why long stockings of cotton and wool are better for baby than short socks unless the weather is very warm. Many babies are sick because their bodies are not sufficiently covered and are subjected to sudden changes of heat and cold. Usually

1. Why should baby's body be so clothed as to maintain a certain temperature?

only about 20 per cent of the surface of the body should be uncovered. When baby wears socks 30–40 per cent is exposed and so baby loses the heat needed. When baby sleeps outdoors or in bed he should be well protected.

Dorothy Vincent asked Miss Ashley a question. She said she had read that the body of a grown person gives off fifty ounces of water through the skin each day and didn't believe it. She asked whether baby's skin gives off water in that way. Miss Ashley said that it is true, and that our clothing collects some of this and some evaporates as it comes in contact with the air. It is necessary to keep baby's body clean so that the skin will act properly and he will grow. If the skin is not clean and is too cold to send out this water, then the kidneys have to do more than their share of the work, and baby may become sick because those organs are overtaxed.

2. Miss Ashley tells why it is important to select carefully the materials worn next to the body.

Miss Ashley thought that we should study materials and know which to wear next to the body, because if water and heat are given off every day the materials must collect and eliminate the moisture, and must conserve or give off the heat.

For baby's comfort wool is considered the best material for his shirt and stockings and band, or a combination of wool and silk, or wool and cotton. The common fibers, wool, silk, cotton, and linen, have different properties and either assist or retard the heat in

its conduction from the body. Wool and silk do not conduct heat rapidly. Do you remember that the wool fibers are short and curly? When they are woven loosely the air collects between the fibers. Still air does not conduct heat rapidly and the still air between the meshes holds the heat. This layer of air in the loose wool fibers helps to keep the body warm. Silk and cotton do not have curly fibers. Wool also absorbs moisture readily, and takes up the body secretions of water and oil, consequently it is necessary to cleanse wool properly.

Baby needs other things besides sleep, fresh air and sunshine, and proper clothing in order to grow strong and well. Were you ever thirsty? Baby, too, needs water to drink and should have it frequently between feedings. Sometimes when he cries he is thirsty, not hungry (Fig. 214). Some babies are given too much food; baby should be fed regularly by the clock. Water must not be too cool, and when baby is very tiny, the water should be warm. Be careful not to have it hot or it will burn baby. The water for baby to drink should be boiled and kept covered ready for use. Water helps to prevent constipation and is very

III. Baby needs water to drink.

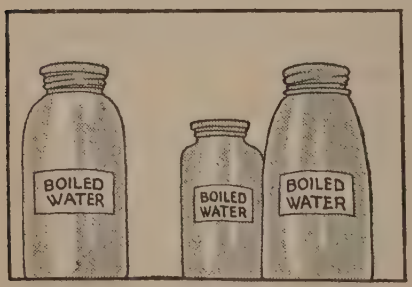

FIG. 214. — Baby needs water to drink.

soothing. We forget sometimes when we are grown up to drink sufficient water. This is very important.

Suggestions for Review

1. Have you learned to drink sufficient water in order to keep well? How much?
2. How do you plan to sleep at night? Is your room well ventilated? Draw a picture of how you arrange your window.
3. How many hours should baby sleep? How many hours do you have?
4. Write a composition telling about the necessary kind of clothing to wear next to the body and why.

Lesson 58

Other Things to Make Baby Grow

There are other necessary things that one should know in order that baby may grow well and strong. Mrs. Edwards says that some of them are very simple, but if one is ignorant of them, baby may suffer.

Have you ever thought when baby sister or brother is restless that perhaps he needs something? It may be a drink of water, as we have learned, or it may be that he is simply uncomfortable. Try to find the cause. It may be a pin or some wet clothing. Wet diapers cause chafing, and should be removed at once. They should not be used a second time before washing. Possibly he needs to be turned in bed. Do you like to lie on your back all the time? Baby likes to be comfortable, too, and when he cries it is his way of letting us know. Miss Ashley

I. Some reasons why baby is restless.

held up a pacifier to show the class and said that *never under any conditions* should one be put into baby's mouth. They are dangerous and filthy and upset digestion. They carry germs to the stomach and intestines and often cause baby to breathe through his mouth. This causes adenoids and other troubles later (Fig. 215).

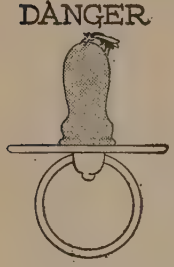

Fig. 215.—Why is the pacifier a very dangerous article?

Do not forget that baby will be restless if too warm; he feels the heat more than grown people in warm weather, and must be kept cool. In cold weather he must be kept warm.

Let baby cry sometimes. He likes it. A moderate amount will not harm him. It may be temper and will help to develop lung capacity and stimulate circulation. It is really exercise.

II. Baby needs exercise, too.

Exercise is very important, as it helps to keep us well. How would you feel if you couldn't move about? Baby, too, needs a chance. When he is tiny, crying is a form of exercise. Later he loves to kick and roll and should be given a chance every day. One afternoon some of the girls were at Mrs. Edwards' house when Dorothy was being undressed and made ready for bed. The room was warm, about 70° F. Mrs. Edwards rubbed baby's little back and limbs and she stretched and cooed. Rubbing helps to make baby strong and is a form of exercise. Then Mrs. Edwards placed her on the bed

with nothing on but her little shirt and she kicked and rolled and enjoyed it thoroughly (Fig. 216).

Good habits are necessary if baby is to grow. Constipation is a bad habit, and makes baby uncomfortable and unhappy. The bowels should move regularly every day. Convulsions are often due to constipation, and other ills come later in life because of this bad habit. Baby should be trained to have a regular time each day. Young babies should have two or three stools every twenty-four hours. When baby has trouble of this kind a physician should be consulted until the mother knows what food to give the baby to correct the digestive disturbance. Such troubles are often due to wrong feeding and faulty digestion as well as to bad habits.

III. Habits are easily formed.

1. Constipation.

Fig. 216. — Baby needs exercise, too.

Another habit baby should learn to form is to lie in bed at certain times. This part of his education should begin early, the very first week of baby's life. He will enjoy being rocked or having someone walk the floor with him, but this is unwise. It is much better for him to lie comfortably in bed.

2. Baby should learn to lie in bed.

Kissing on the mouth is very bad for baby. Disease is often communicated in this way, especially colds. People who are ill should

3. Kissing is not good for baby.

not touch baby. Baby should have his own handkerchiefs, towels, and wash cloths. It is not safe to use those of others.

Sucking the fingers is another bad habit, and should be corrected and prevented, as it spoils the shape of baby's mouth and fingers. Mrs. Edwards said that she had to tie a mitten around baby Dorothy's hand.

4. Sucking fingers is a bad habit.

Do not forget that baby is not a plaything to amuse the whole family. Too much play makes baby sleep badly, causes indigestion, and makes him nervous and irritable. At six months is time enough to begin to play with him. He can be left to play by himself, too. He will creep about at ten months, and sit alone. At about one year of age he will begin to walk. Mrs. Edwards had a pen, and baby Dorothy used to play in it. On warm days, in the country, Mrs. Edwards put the pen on a shawl on the grass and baby had a good time playing outdoors. Mrs. Edwards was always very careful to select the right kind of toys for baby, as she tried to put everything into her mouth. Toys of wool and hair are bad; those which can be washed are better.

5. Baby is not a plaything.

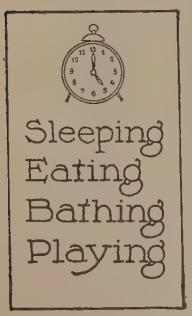

FIG. 217. — Sleeping, eating, bathing, always by the clock.

Another habit to be formed with baby is regularity of living. Do you not feel better when you get up at the right time and start to school promptly,

and do your other duties on time? Baby does, too, and will grow better if he has systematic care and a definite time for everything — for feeding, for bathing, for sleeping. Mrs. Edwards said that she was sure of it, for Dorothy was growing well and strong (Fig. 217).

6. Regularity of living is essential if baby is to grow well and strong.

Suggestions for Review

1. Make a list of the good habits baby must be taught. Why is it necessary to think about these things?
2. In what ways does exercise help baby to grow?
3. If the baby at home is restless, what will you do to discover the reasons why?

Lesson 59

THE BEST FOOD FOR BABY

Food is very important. Do you know the best kind to keep baby well, and how often he should be fed?

Miss Ashley placed her small clock on the table and said, "We were talking last lesson about regularity and attending to baby on time. *Feeding him on time is most important of all*, and each day he should have a regular plan for his waking and sleeping hours. This is very necessary if he is to grow strong and well." But what food should be given to baby? What is best for him? It is very important to study this question, for very often poor foundations are laid

1. The first lesson to learn about feeding baby is to do it by the clock.

in babyhood by mothers who do not know how to feed their babies properly. Do you know what is meant by a good foundation for a building? If it is weak, the building will fall. If baby is not well fed, he will not be strong and well when he grows up. Animals — cows, horses, and other animals — must be well fed if they are to do their work. So must grown people and children, too. Did you know that many babies die every year in the United States because they are not fed properly nor well cared for during their first year? We are told by the United States Children's Bureau at Washington, D. C., that in the United States about 300,000 babies died last year, and that half of these deaths could have been prevented. Think of saving so many babies! Do you not wish to learn how to keep them well? Well babies are happy babies, and we enjoy them. Crying babies are not so pleasant to have in our homes. Let us all help so that we may have well babies all over this great land of ours. We want the babies to become strong men and women, all ready and able to help.

II. Mother's milk is the best food for baby.

Some of the babies die during the first year because their food is not the right kind, or the bottles which contain the food are not clean. About thirty out of every hundred babies fed from bottles die during the first year. We are also told that only seven out of one hundred babies fed from the mothers' breasts die during the first year. Which food then do you think is better, that which

mother gives or the kind which is prepared from cow's milk and often put into bottles which are not clean? Mother's milk agrees with baby, and all babies should be fed in that way if possible, because that milk contains all the elements which baby's little body needs in order to grow strong. It is free from germs, too.

1. Babies often die because fed from bottled milk which is not clean.

When mothers do not have enough milk, or any milk, to feed baby, then artificial feeding is necessary. The best kind of food after mother's milk is cow's milk which has been *changed* or *modified* to suit the baby's stomach. There is no perfect substitute for mother's milk. All babies cannot be fed in the same way on cow's milk. It must be changed or prepared so that each baby is able to digest it. A physician should tell the mother what food to give and how to prepare the modified cow's milk if she cannot nurse her baby. This is very important. Mrs. Edwards' neighbor, Mrs. Post, called one evening to ask what food to give her baby, as his modified milk would not stay down. Mrs. Edwards very wisely told her to call the doctor, as it is very important to learn from someone who knows, and very foolish for anyone to prescribe for another about so important a matter.

III. Cow's milk modified or changed is the next best food.

If mother nurses baby, she should obey certain rules, for she must keep herself well for baby's sake. Here are some rules for her to think about:

1. Eat regularly good, nourishing food, and plenty

of it, including a good deal of milk. "Milk is the best food to make milk."

2. Sleep at least eight hours at night.

3. Take a nap or lie down every afternoon for half an hour. It is endangering baby's life if mother gets too tired. Few mothers realize how very important this is. Rest is absolutely essential if baby is to be kept well.

4. Drink plenty of water; tea and coffee are too stimulating.

5. Nurse the baby at regular times. Mother's nipples should be washed with boracic acid water each time before baby touches them.

6. Exercise every day in the fresh air if possible.

7. Be happy; do not fret or get tired or out of temper.

8. Bathe every day.

Mother should nurse baby regularly. During the first month he may have to be wakened at feeding time, but later he will waken if he is kept on regular schedule. Ten or twenty minutes is long enough for baby to nurse. Before laying him in bed on his side to rest, mother should hold him over her shoulder for a few minutes and pat him very gently on the back. This will bring up the gas or air swallowed during feeding.

IV. How often should baby be fed?

How often should baby be fed when he is a tiny baby? Do you know? What should his daily habits be? Suppose you plan a chart for him so that you know. This

is a good plan for baby during the first three months of his life. Mrs. Edwards managed this way, and so did Mrs. Vincent with her babies, and they believe that babies thrive best if cared for with regularity. A physician should recommend what the hours for feeding should be and that will depend on circumstances, according to baby's health. It is, however,

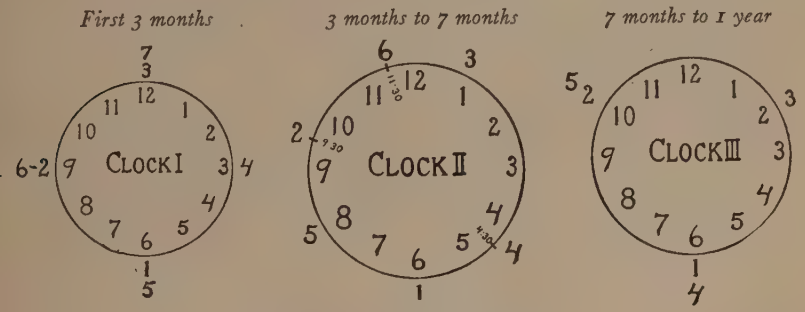

FIG. 218. — Baby feeding clocks.

very important to remember to feed baby regularly, on time (Fig. 218).

The following charts show some suggested schedules for feeding baby. They show how many times, and the hours:

CHART I

First three months of baby's life

This shows that baby, if well, is fed every three hours and should have seven feedings during the day.

	A.M.	P.M.
I o'clock		
II o'clock		
III o'clock	. . . . .	Fourth feeding, 3 P.M.
IV o'clock		
V o'clock		
VI o'clock	First feeding, 6 A.M.	Fifth feeding, 6 P.M.
VII o'clock		
VIII o'clock		
IX o'clock	Second feeding, 9 A.M.	Sixth feeding, 9 P.M.
X o'clock		
XI o'clock		
XII o'clock	Third feeding, 12 noon	Seventh feeding, 12 midnight

Chart II

Shows how often baby should be fed from three months to seven months of age

This shows that baby, if well, should be fed every three and one half hours and should have only six feedings each day.

	A.M.	P.M.
I o'clock	. . . . .	Third feeding, 1 P.M.
II o'clock		
III o'clock		
IV o'clock	. . . . .	Fourth feeding, 4.30 P.M.
V o'clock		
VI o'clock	First feeding, 6 A.M.	
VII o'clock		
VIII o'clock	. . . . .	Fifth feeding, 8 P.M.
IX o'clock	Second feeding, 9.30 A.M.	
X o'clock		
XI o'clock	. . . . .	Sixth feeding, 11.30 P.M.
XII o'clock		

Chart III

Shows how often baby should be fed from the beginning of his seventh month until he is one year of age

This shows that baby, if well, should be fed only every four hours and have only five feedings each day.

	A.M.	P.M.
I o'clock		
II o'clock	. . . . .	Third feeding, 2 P.M.
III o'clock		
IV o'clock		
V o'clock		
VI o'clock	First feeding, 6 A.M.	Fourth feeding, 6 P.M.
VII o'clock		
VIII o'clock		
IX o'clock		
X o'clock	Second feeding, 10 A.M.	Fifth feeding, 10 P.M.
XI o'clock		
XII o'clock		

The following plan shows how one should have a time for everything in baby's day:

6 A.M. *The first feeding.* Then baby loves to lie in bed and kick or sleep until

8.30 A.M. Baby's bath.

9 A.M. *The second feeding.* Then baby is ready to sleep until noon, outdoors if possible.

12 noon. *The third feeding.* Baby's noon meal.

1–3 P.M. Baby is outdoors for an airing or nap.

3 P.M. *The fourth feeding.*

3–5 P.M. Baby is usually awake. This can be his play time after he is six months of age.

5 P.M. Baby is made ready for bed.
6 P.M. *The fifth feeding.* This is baby's supper.
9 P.M. *The sixth feeding.*
12 P.M. *The seventh feeding.* After three months of age this feeding should not be given, and baby should sleep comfortably, if he is well, until 6 A.M.

Suggestions for Review

1. Draw a clock, put in the figures on the dial, and show how often baby should be fed during the first three months of his life.
2. Tell why mother's milk is the best food for baby. Why do so many bottle-fed babies die every year? What kind of food does your baby brother eat?
3. What food is best if mother's milk cannot be had?

Lesson 60

Clean Milk is Necessary

Baby should have clean, pure milk. Do you know where the milk comes from, and how to keep it clean and pure?

Last summer Dorothy Vincent spent three months on her uncle's farm in the country and helped him to care for the milk. She loved to watch the cows grazing in the green fields and to drive them into the barns at milking time. Her Uncle John had a farm which was very well run, — a model farm. He sent milk to the dairy near, where it was bottled and sent to the large cities of the state. Dorothy Vincent said she knew of a dairy in Commonwealth City which she thought sold

1. Dorothy Vincent learns about the cows which give us milk.

the milk from her uncle's farm. Mrs. Vincent was particular about having clean milk for her baby, and inquired carefully so as to get only the purest (Fig. 219).

FIG. 219.—One of Uncle John's clean milkmen.

Uncle John was particular about these things at his farm:

1. The cow barns were clean.

2. He kept very healthy cows.

3. The men he employed to milk the cows were clean milkers and washed and dried their hands before milking.

II. How Uncle John remembered to keep the milk clean in the barn.

4. The milk pails for holding the milk were clean.

Dorothy Vincent watched the clean milkers in their white suits. After milking, the milk was strained through several thicknesses of cheesecloth and put into clean cans. These were cooled at once by putting them into ice water or the spring. Dorothy did not know why it was necessary to keep the milk cool until it was sent to the milk dairy for bottling. Do you? This helps to preserve it, as you have studied in the companion book to this; the harmful bacteria will not have so good a chance to grow in cooled milk. When allowed to cool slowly, there is more danger of germs getting a start.

Dorothy often went with her uncle when he carried the cans of milk in his auto truck to the milk dairy. There it was measured and bottled and sent in cold refrigerator cars to the big cities near.

Mrs. Vincent said that it was not easy to know about all these things if one lived in the city and bought milk from the milk dairy. In the country one can watch these things. In some cities inspectors are paid to go around to the farms near the large cities and see if the milk is handled in a clean, safe way. In some large cities, if one wishes to be very sure, one can buy certified milk which has been particularly inspected. It costs more than other milk. It is not safe to buy milk from dirty dairies.

Mrs. Vincent and the other mothers of Commonwealth City often discussed this. Their care of the milk began when the bottle arrived at the house in the early morning (Fig. 220). Mrs. Vincent said that she never left the milk uncovered for a minute, but placed it in the coldest part of the refrigerator at once, until she was ready to prepare or change the cow's milk for her baby's food. She always kept baby's milk separated from the family milk and was very careful that the ice box was clean. How often is your ice box scrubbed? Mrs. Vincent washed hers thoroughly twice a week with hot water and soda, and then thoroughly aired it. Why was this necessary?

III. How Mrs. Vincent cares for the milk in the house.

FIG. 220. — Mrs. Vincent remembers these things.

Mrs. Vincent always bought pasteurized milk. In many cities all milk must be pasteurized before it is sold. This is a law. This was true in Commonwealth City and vicinity and was done in the dairies where the milk was bottled. If you are not sure that the milk is pure, you can pasteurize or sterilize it before preparing baby's milk. The girls at the Ellen H. Richards School learned to do this. Perhaps you can learn to do this in your school. They put the milk to be pasteurized in a clean double boiler or agate saucepan, heated it to a temperature of 150° F., and kept it at that temperature for twenty minutes. This kills the bacteria of disease and the milk tastes about the same. It is easier to pasteurize baby's milk at the same time his daily milk is being prepared or modified. We shall learn in the next lesson.

1. Mrs. Vincent buys pasteurized milk.

(*a*) How to pasteurize milk.

When milk is to be sterilized it is necessary to heat it to 212° F., the boiling point, and to keep it there for twenty minutes. The taste of sterilized milk is not as pleasant as that of pasteurized. If given to baby for a long period of time it causes constipation. All active bacteria of disease are destroyed, but the boiled milk is not as good a food as the raw milk or pasteurized.

(*b*) How to sterilize milk.

Very often baby's milk is not clean because the bottles are not cared for properly. *It is very important to have clean bottles and to care for them every day.* This

is how Mrs. Edwards managed, because she knew that dirty bottles or nipples cause much disease. Mrs. Edwards had enough bottles so that she could prepare at once all of Dorothy's feeding for 24 hours. She had a time each morning after 9.30 while baby was sleeping when she prepared or modified the cow's milk to suit baby Dorothy, and cared for the bottles. This is how she managed to keep them clean.

IV. The care of the bottles is very important.

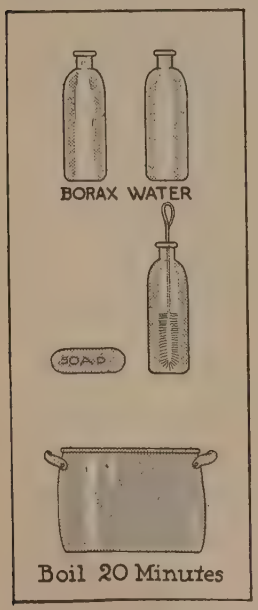

FIG. 221. — The care of the bottles is very important if baby is to be kept well.

1. When baby had finished a bottle after her regular feedings each day, she always rinsed it with *cold* water and filled it with borax water to stand until the morning hour, when she sterilized all the bottles.

2. She always bought smooth, plain, round bottles which were easily cleansed. Bottles with tubes cannot be easily cleansed.

3. The nipples bought were plain ones, and Mrs. Edwards always boiled the new ones for five minutes. After they were used by baby they were turned inside out, scrubbed thoroughly in soapsuds, and rinsed. Then Mrs. Edwards put them in a cup of water in which a small amount of boracic acid had been dissolved and let them stand in this covered cup until

she used them again. She said that the nipple should not have too large or too small a hole, but one just barely large enough to see through. If too large the milk comes too quickly.

4. At this morning hour, when ready to wash the bottles which had collected for twenty-four hours, she emptied out the borax water, washed the bottles with a brush in hot soapsuds, and rinsed them in hot water. Then she boiled them for twenty minutes in order to have them ready for baby's modified milk, which she prepared (Fig. 221).

Suggestions for Review

1. If possible, visit a farm. Notice whether the stables are clean, and how the milk is kept cool.

2. Perhaps you can visit a dairy with your teacher, if a farm is not near. Write about what you see.

3. Try to wash baby brother's or sister's bottles and nipples just as Mrs. Edwards did.

4. Watch your milk bottle. Never leave it uncovered for long. How do you care for the milk at your house to keep it clean and pure for baby?

Lesson 61

Modifying the Milk

See if you can modify some milk at school. This is how Mrs. Edwards' physician told her to prepare baby Dorothy's food.

In the first place, Mrs. Edwards was very particular to have everything used in the preparation of

Dorothy's food very clean: clean hands, table, bottles, nipples, and utensils. She kept the utensils for this purpose only, and never allowed anyone to use them. The picture shows some of the necessary things ready for use. Notice the measuring glass. It is marked showing ounces (Fig. 222).

I. Cleanliness of milk and utensils is absolutely necessary for baby's health.

Mrs. Edwards could not buy from a registered

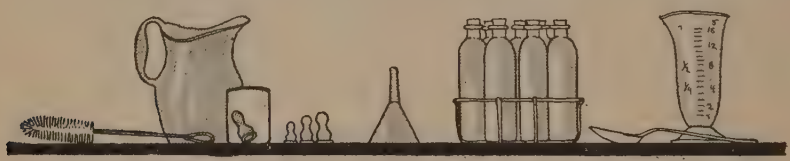

FIG. 222. — Mrs. Edwards always had all her tools ready for modifying the milk.

farm but she bought the purest cow's milk she could get from Mr. Willett's dairy. It was good, rich, whole milk with four or five per cent of fat. Mrs. Edwards put the milk close to the ice, and in the morning after baby Dorothy had gone to sleep she prepared the milk for the next 24 hours, for six or seven feedings. Baby Dorothy could not take cow's milk just as it is; few babies can, because it is different from mother's milk and causes digestive trouble. It would make Dorothy sick, cross, and restless and she would not grow if she took whole cow's milk.

II. Cow's milk must be changed or modified to suit baby's needs if mother's milk cannot be given.

Cow's milk must be changed so that baby can digest it. *We call this modifying the milk.* Cow's milk has more protein than mother's milk, so it must be di-

luted. Diluted cow's milk will not give baby sufficient food, so it is necessary to add sugar, called milk sugar, to make it more nutritious. In the companion volume to this you have learned of what cow's milk is composed. It has about the same amount of fat as human milk, but when we dilute it, it has less fat than human milk. Sometimes when we add sugar the milk is rich enough for baby, but sometimes the baby needs more fat and it is necessary to dilute with a richer milk containing a higher per cent of fat. The necessary thing to remember is that we are trying to change cow's milk so that baby can digest it and to give him enough food to supply fuel for his body as well as building material. He needs both, for exercise and growth draw on this food supply.

Mrs. Edwards was very particular about consulting Dr. Long and always followed his advice, because she did not know how to change or modify cow's milk for baby in a way to keep her well. Each baby is an individual and needs her own formula ; that means, you know, the directions or prescription for making the modified milk. Some doctors who are interested in little babies have worked out these directions or formulas for preparing babies' food, showing how much of each ingredient to put in for different ages of baby's life in order to change or modify the cow's milk. The reason why a physician should be asked about this is that not all babies are the same or normal. Cow's milk is the very best

1. Mrs. Edwards follows carefully the doctor's orders.

food when mother's milk cannot be obtained, but it must be diluted according to baby's age and digestion. Never use patented foods unless a physician recommends them.

2. Diet kitchens prepare food for babies.

Perhaps in your city there are diet kitchens where trained nurses will show you how to prepare your baby's milk if you are in doubt about it (Fig. 223). It is wise to find such a place, or if one can afford to pay for it there are in some cities laboratories which make a business of modifying milk for babies according to doctors' directions or formulas. They take great care at such places to have everything used in the preparation of the milk absolutely clean, and also take very good care of the cows and keep them well. This is very important, for dirty milk may cause diarrhea, dysentery, or other troubles, or perhaps cost baby's life.

FIG. 223. — In some large cities there are diet kitchens where one may learn how to prepare baby's milk.

Mrs. Edwards, as she started to prepare Dorothy's milk, was careful to mix the milk well and to put into a pitcher the necessary ounces of this well mixed milk according to the formula or prescription which Dr. Long had given her. The formulas following, which Mrs. Edwards used, are for a normal, well baby like Dorothy. They show what her calendar of food should be, and what ingredients Mrs. Edwards had to put in the pitcher each day.

Baby's Calendar of Food[1]

First day of his life: Only water. 1 ounce every 4 hours.

Second, 3d, and 4th days: 3 ounces of milk, 7 ounces of water, 2 level teaspoonfuls of milk sugar. Divide into 7 feedings.

Fifth to 7th days: 4 ounces of milk, 8 ounces of water, 3 teaspoonfuls of milk sugar. Divide into 7 feedings.

Eighth day to end of 3d month: Begin with 5 ounces of milk, 10 ounces of water, and 1½ tablespoonfuls of milk sugar; increase the milk by ½ ounce every four days, and the water by ½ ounce every 8 days; the milk sugar by ½ tablespoonful every 2 weeks. Thus, on the 16th day give 6 ounces of milk, 10½ ounces of water, 2 tablespoonfuls of milk sugar, divided into 7 feedings; on the 20th day increase the milk to 6½ ounces, using 10½ ounces of water and 2 tablespoonfuls of milk sugar as before.

Beginning of the 4th month to end 6th month: At the end of the third month the baby will be getting approximately 16 ounces of milk, 16 ounces of water, and 4½ tablespoonfuls of milk sugar, divided into 6 feedings. Now increase the milk by ½ ounce

[1] Adapted from Holt & Shaw's "Save the Babies," by Mrs. Mary Swartz Rose, Teachers College, Columbia University.

every 6 days, reduce the water by ½ ounce every 2 weeks, using 4½ tablespoonfuls of milk sugar per day. If the food does not digest readily, barley water may be used instead of the plain water. It is made by cooking ½ tablespoonful of barley flour in the water for 20 minutes, and cooling before adding to the milk.

Beginning of the 7th month to end of 9th month: At the end of the 6th month the baby will be receiving about 24 ounces of milk, 12 ounces of water, and 4½ tablespoonfuls of milk sugar daily, divided into 5 feedings. Now increase the milk by ½ ounce every week, reduce the water by ½ ounce every 2 weeks, and reduce the milk sugar to 3 tablespoonfuls per day. Midway between two of the morning feedings, give from one to two tablespoonfuls of strained orange juice. This helps to keep the bowels in good condition and serves as a safeguard against scurvy when pasteurized milk is fed exclusively. If barley flour has not been used earlier, it may be advantageously introduced during this period, cooking 1½ tablespoonfuls of the flour with the water for the day and gradually increasing to 3 tablespoonfuls.

Beginning 10th month to end of 12th month: At the end of the 9th month the child will be receiving about 30 ounces of milk, 8 ounces of water cooked with 3 tablespoonfuls of barley flour, 3 tablespoonfuls of milk sugar, given in 5 feedings, and from 1 to 2 tablespoonfuls of orange juice between two morning meals. Now increase the milk 1 ounce per month, decrease the milk sugar 1 tablespoonful per month, and add barley gruel made with 3 tablespoonfuls of barley flour cooked in 8 ounces of water. Continue the use of orange juice, which may be increased to 3 tablespoonfuls if the bowels are not loose. After one feeding the yolk of an egg may be fed warm, with a spoon, or a small piece of stale bread crust be given to chew. No other foods should be given during the first year.

From this scheme you can see how very careful one should be to increase baby's food gradually so he will have all the necessary food for body building and exercise.

Suggestions for Review

1. Why is great cleanliness necessary in handling milk for baby? Tell how the utensils used at home for this purpose should be cared for.
2. What is meant by modified milk?
3. Do you know whether there is a diet kitchen in your locality in case you need help at your home in preparing milk for baby?
4. What would happen to baby if the milk were not clean or if the formula for modifying were not the right one for baby?

To the Readers of This Book

This book gives only half of all the interesting things you will wish to learn about the Homemaking studies. Volume II will teach you how to select food and to prepare it attractively; how to entertain your friends in simple ways, and to keep the home clean and attractive. You will wish to know how the "Sunnysiders" have accomplished all these things at the "Sunnyside Apartment." The pictures will help you to understand the many interesting things they did. Are you not eager to know more about them?

APPENDIX

SOME PAGES FROM MISS ASHLEY'S MEMORANDUM BOOK

Miss Ashley's Bedroom Furnishings

1 bed and spring	$16.24
1 mattress, cotton, rolled edge	12.00
1 pillow, goose feathers	1.85
1 pr. blankets, cotton	2.39
1 comforter or plaid blanket	3.50
3 sheets, 54 × 90 @ 1.09	3.27
1 desk blotter	.08
1 comfortable armchair	5.50
1 cover for seat of chair	.30
1 pair window curtains, cheesecloth, 16¢ per yd.	.65
1 pair over curtains, chintz, 30¢ per yd.	.60
1 cover for table	.20
Brought forward	$46.58
3 pillow cases, 40 × 36 @ 33¢	.99
1 dimity spread	1.69
3 huck towels, unbleached union	.75
2 bath towels	.92
1 bureau and mirror	16.00
1 cover for bureau	.15
1 table	3.96
2 curtain rods	.20
1 bed cover and pillow cover for day use	2.50
2 closet bars for clothes	.20
1 rug	3.74
Total	$77.68

Miss Roberts' Bedroom Furnishings

1 couch and spring, 3 ft.	$12.24
1 mattress	12.00
1 pillow, goose feathers	1.85
1 pr. blankets, cotton	2.39
1 comforter or plaid blanket	3.50
3 sheets @ 1.09	3.27
Brought forward	$35.25
1 dimity spread	1.69
3 huck towels, unbleached union	.75
3 pillow cases @ .33	.99
2 bath towels	.92
1 bureau and mirror	16.00
1 desk blotter	.15

Brought forward	$55.75
1 bureau scarf	.20
1 desk table plus stain	4.96
1 desk cover	.08
1 rug	3.74
1 comfortable chair	5.50
2 curtain rods	.20
Brought forward	$70.43
1 pair curtains	.65
1 pair over curtains	.60
1 couch cover or day bed cover	1.50
2 closet bars for clothes	.20
Total	$73.38

Bathroom Furnishings

1 pair of curtains	$ .25
1 curtain rod	.10
1 bath mat	.80
1 shelf	1.98
1 soap dish	.38
Brought forward	$3.51
1 mirror	1.30
3 towel racks	1.50
1 toilet brush	.10
1 paper holder	.20
Total	$6.61

Living Room Furnishings

1 rug, $4\frac{1}{2} \times 7\frac{1}{2}$	$10.75
1 desk table	6.75
1 waste paper basket	.50
1 desk chair	2.25
1 desk blotter	.08
1 comfortable wicker chair	5.50
1 couch	12.24
1 mattress, cotton, rolled edge	10.00
2 pillows @ 1.85	3.70
1 couch cover	2.50
1 dimity spread	1.69
1 pr. blankets, cotton	2.39
1 comforter or plaid blanket	3.50
3 sheets @ 1.09	3.27
1 mattress pad	1.79
Brought forward	$ 66.91
3 pillow cases @ .33	.99
3 huck towels, unbleached union	.75
2 bath towels	.92
1 chiffonier	13.00
1 chiffonier cover	.20
2 pairs cheesecloth curtains	1.30
2 pairs chintz curtains	1.25
4 curtain rods	.40
1 pair portières, 12 yd.	3.60
2 covers for couch pillows	.80
1 pr. bookcase curtains	.60
1 lamp with shade	7.00
1 rocking chair	5.00
1 small table stand	2.00
Total	$104.72

Dining Room Furnishings

1 rug, $4\frac{1}{2} \times 7\frac{1}{2}$	$10.75
1 table and stain	8.35
6 chairs	10.50
1 serving table or sideboard	12.00
1 silence cloth	1.75
1 tablecloth (by yd., cotton)	1.50
1 set doilies	2.00
$\frac{1}{2}$ doz. napkins	1.75
2 curtain rods	.20
1 pair cheesecloth curtains	.65
1 pair chintz curtains	.70
12 teaspoons	2.36
6 dessert spoons	2.23
6 knives	2.23
6 forks	2.23
Brought forward	$59.32
1 carving set	1.98
1 water pitcher	.69
12 tumblers	.51
6 oatmeal dishes	.90
6 dinner plates	1.74
6 tea plates	1.14
6 cups and saucers	2.22
6 bread and butter plates	1.02
1 platter, small	.44
1 platter, large	1.19
2 open vegetable dishes	.98
1 cream pitcher (glass)	.23
1 sugar bowl (glass)	.19
2 salt shakers	.20
1 bowl for flowers	.50
1 brass serving tray	2.00
Total	$75.29

Kitchen

1 step ladder chair	$1.50
2 pot covers	.20
1 pot cover	.10
1 saucepan	.42
1 butter crock	.59
1 flour canister (10 lb.)	1.59
1 mop	.88
2 curtain rods	.20
$1\frac{1}{2}$ yd. oilcloth for tops of tubs	.57
2 knives	.30
1 pallet knife	.36
1 chop knife	.44
Brought forward	$7.15
1 knife and fork	.31
2 spoons	.20
2 spoons	.34
1 knife	.49
1 can opener	.10
1 dozen hooks	.16
1 scrub brush	.21
1 vegetable brush	.05
1 saucepan	.62
1 double boiler	2.24
1 coffee pot	1.64
1 kettle	2.56
1 soup strainer	.31

Brought forward	$16.38
1 soap shaker	.14
1 sink strainer	.15
1 potato masher	.10
1 garbage can	1.04
1 scrub pail	.47
1 fry pan	.21
1 fry pan	.13
1 roast pan	.62
1 chopping bowl	.34
1 rolling pin	.29
1 bread board	.51
2 bread pans	.82
1 floor brush	1.24
1 egg beater	.13
6 mason jars	.50
6 mason jars	.65
1 yellow bowl	.49
1 yellow bowl	.12
1 salt box	.16
1 broom	.75
1 dust pan	.24
1 bread box	1.10
1 sugar can	.96
1 colander	.75
Brought forward	$28.29
1 dish pan	.75
2 pie tins	.18
1 boiler	4.50
1 muffin tin	.50
1 wash basket	1.50
1 ironing board	1.16
1 set irons	2.07
50 clothespins	.22
1 washboard	.94
1 towel roller	.27
1 line	1.21
1 pan	.32
1 spoon	.14
1 soap dish	.43
1 measuring cup	.20
1 window sash curtain	.32
1 pair curtains for cupboard	.32
1 bracket	.20
1 plant	.25
1 glass holder	.10
oil cloth for window box	.40
6 dish towels	1.35
6 dish towels	.70
Total	$46.32

TOTAL

Dining Room	$ 75.26
Living Room	104.72
Miss Ashley's Bedroom	77.68
Miss Roberts' Bedroom	73.38
Kitchen	46.32
Bathroom	6.61
	$383.97

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